

# 37° Flared Tube Fittings

Fittings

Valves and Filters

Manifolds

Tubing, Pipes, Hoses and Connectors

Quick-connects, Vessels and Sample Cylinders

Tubing Tools, Other Elements



# Contents

Tube cap assembly - TCA



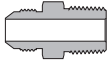
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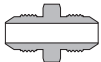
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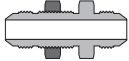
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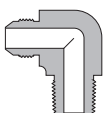
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Tube Plugs - TP



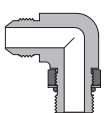
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Male Elbows - LM



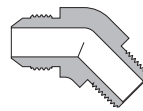
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Adjustable Male Elbows - LP



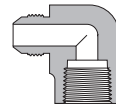
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45° Male Elbows - VM



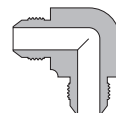
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Female Elbows - LF



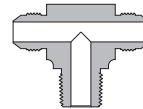
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Union Elbows - LU



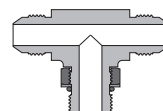
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Male Branch Tees - TTM



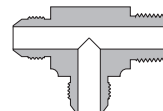
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Adjustable Male Branch Tees - TTP



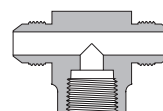
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Male Run Tees - TMT



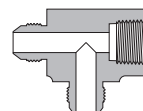
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Female Branch Tees - TTF



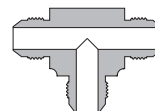
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Female Run Tees - TFT



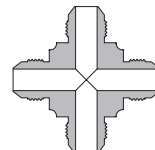
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Union Tees - TTT



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Union Crosses - C



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Fittings

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Tubing, Pipes, Hoses  
and Connectors

Quick-connects, Vessels  
and Sample Cylinders

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Other Elements

## Features

- ⦿ Fittings are designed and manufactured in compliance with SAE J514.
- ⦿ The hardened threads with smooth surface finish avoid galling and help to extend the fitting service life.
- ⦿ Radius junction design with elbows provides smooth flow path.
- ⦿ Stainless steel nut threads are silver-plated to minimize the friction with the body threads.
- ⦿ Every fitting is stamped with size, material and heat code.
- ⦿ Fittings are easy to disconnect and retighten.
- ⦿ All male threads are protected by plastic caps.

## Technical Data

- ⦿ Size range from 1/8" to 2" and 3 to 50 mm.
- ⦿ Thread Specification:

Thread Type	Reference Specification
NPT	ASME B1.20.1, SAE AS71051
Unified (SAE)	ASME B1.1, SAE J475

- ⦿ The working temperature of FITOK 37° flare tube fittings is the same as that of FITOK 6 series tube fittings.
- ⦿ Working Pressure:

Nom. SAE Dash Size	Nom. Tube O.D. Size (in.)	37° Flare St. Thread	Nom. Pipe Size	SAE St. Thread Union and Bulkhead (psig/bar)	Fittings with Pipe Threads (psig/bar)
2	1/8	5/16-24	1/8	5000 (345)	5000 (345)
3	3/16	3/8-24	1/8	5000 (345)	5000 (345)
4	1/4	7/16-20	1/8	5000 (345)	5000 (345)
5	5/16	1/2-20	1/8	5000 (345)	5000 (345)
6	3/8	9/16-18	1/4	5000 (345)	4000 (276)
8	1/2	3/4-16	3/8	4500 (310)	3000 (207)
10	5/8	7/8-14	1/2	3500 (241)	3000 (207)
12	3/4	1 1/16-12	3/4	3500 (241)	2500 (172)
14	7/8	1 3/16-12	3/4	3000 (207)	2500 (172)
16	1	1 5/16-12	1	3000 (207)	2000 (138)
20	1 1/4	1 5/8-12	1 1/4	2500 (172)	1150 (79)
24	1 1/2	1 7/8-12	1 1/2	2000 (138)	1000 (69)
32	2	2 1/2-12	2	1500 (103)	1000 (69)

1. Working pressures given are for carbon steel only. Contact the authorized representative or FITOK Group for working pressure of other materials.
2. Four times safety factor applied for above working pressure.

## Materials

Material	Bar Stock	Forging	Designator
316 Stainless Steel	ASTM A276 ASME SA479, EN 1.4401	ASTM A182, ASME SA182, EN 1.4401	SS
Aluminum	ASTM B211	ASTM B247	AL
Brass	ASTM B16/B453	ASTM B283	B
Carbon Steel	ASTM A108	ASTM A105	CS

## Ordering Information

Add the material designator as a prefix to the basic ordering number to get the complete ordering number.

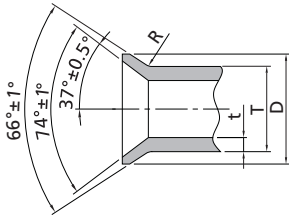
**For example:**

1. Male connector with 1/4" tube, 1/4 NPT thread and 316 stainless steel material, the complete ordering number is **SS-CM-AN4-NS4**.
2. Sleeve with 6 mm tube and 316 stainless steel material, the complete ordering number is **SS-SL-AN6M**.

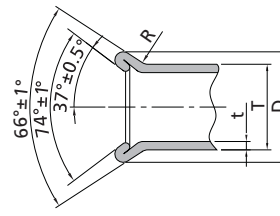
## Flaring Operation

Tube flaring is carried out in two different ways, single wall flare on thick wall tubes and double wall flare on thin wall tubes to reinforce same. Refer to below table:

### Thick Tubes



### Thin Tubes

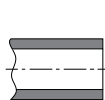


Fractional Tubing			
T-Tube O.D. in	Dimension		
	D (mm)	t (in.)	R (mm)
1/4	8.6-9.1	0.020-0.065	0.8
5/16	10.2-10.9	0.020-0.065	0.8
3/8	11.6-12.4	0.020-0.065	1.0
1/2	16.0-16.7	0.028-0.083	1.5
5/8	19.3-20.0	0.035-0.095	1.5
3/4	23.3-24.1	0.035-0.109	2.0
7/8	26.4-27.1	0.035-0.109	2.0
1	29.7-30.4	0.035-0.120	2.3
1 1/4	37.5-38.3	0.049-0.120	2.3
1 1/2	43.2-43.9	0.049-0.120	2.8
2	59.2-59.9	0.065-0.134	2.8

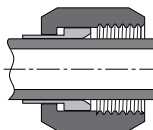
Metric Tubing			
T-Tube O.D. (mm)	Dimension		
	D (mm)	t (mm)	R (mm)
6	8.4-9.2	0.5-1.5	0.8
8	10.1-10.8	0.5-1.5	0.8
10	12.0-12.5	0.5-1.5	1.0
12	16.0-16.7	1.0-2.0	1.5
14	18.8-19.5	1.0-2.5	1.5
15	19.4-20.0	1.0-2.5	1.5
16	19.4-20.0	1.0-2.5	1.5
18	23.5-24.0	1.0-3.0	2.0
20	24.0-24.5	1.0-3.0	2.0
22	26.2-27.2	1.0-3.0	2.0
25	29.5-30.2	1.0-3.0	2.3
30	37.4-38.0	1.5-3.0	2.3
32	37.6-38.3	1.5-3.0	2.3
38	43.5-44.5	1.5-3.0	2.8
50	58.9-59.6	1.5-3.5	2.8

## Installation Instructions

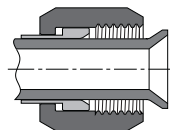
1. Cut the tube to the proper length.
2. Insert the tube into the nut and sleeve.
3. Form the flare to 37° dimension according to SAE J533. See flaring operation.
4. Finger-tighten the nut.
5. Tighten the nut 1/4 turn with wrench while holding steady the body of the fitting.



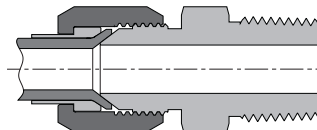
Step 1



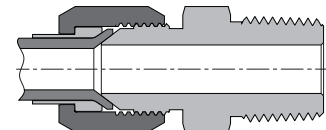
Step 2



Step 3



Step 4

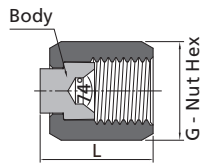


Step 5

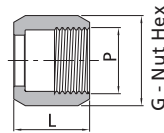
## Cautions:

- ⊙ Do not loosen or tighten fittings when system is pressurized.
- ⊙ Please use proper thread sealants on tapered pipe threads.

**Tube cap assembly**



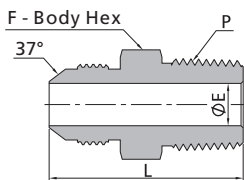
**Nuts**



SAE 070112A					
T-Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	G	
1/8	3	-TCA-AN2	0.60 (15.3)	0.37 (9.5)	
3/16	4	-TCA-AN3	0.66 (16.8)	0.44 (11.1)	
1/4	6	-TCA-AN4	0.67 (17.1)	0.56 (14.3)	
5/16	8	-TCA-AN5	0.77 (19.5)	0.63 (15.9)	
3/8	10	-TCA-AN6	0.81 (20.5)	0.69 (17.5)	
1/2	12	-TCA-AN8	0.94 (23.9)	0.87 (22.2)	
5/8	16	-TCA-AN10	1.07 (27.1)	1.00 (25.4)	
3/4	10	-TCA-AN12	1.24 (31.6)	1.25 (31.8)	
7/8	22	-TCA-AN14	1.26 (32.0)	1.37 (34.9)	
1	25	-TCA-AN16	1.29 (32.8)	1.50 (38.1)	
1 1/4	32	-TCA-AN20	1.39 (35.4)	2.00 (50.8)	
1 1/2	38	-TCA-AN24	1.70 (43.2)	2.25 (57.2)	
2	50	-TCA-AN32	2.07 (52.6)	2.87 (73.0)	

SAE 070110						
Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, in. (mm)		
in.	mm			L	G	
1/8	3	5/16-24	-N-AN2	0.55 (14.0)	0.37 (9.5)	
3/16	4	3/8-24	-N-AN3	0.61 (15.5)	0.44 (11.1)	
1/4	6	7/16-20	-N-AN4	0.62 (15.8)	0.56 (14.3)	
5/16	8	1/2-20	-N-AN5	0.68 (17.3)	0.63 (15.9)	
3/8	10	9/16-18	-N-AN6	0.73 (18.5)	0.69 (17.5)	
1/2	12	3/4-16	-N-AN8	0.85 (21.6)	0.87 (22.2)	
5/8	16	7/8-14	-N-AN10	0.98 (24.9)	1.00 (25.4)	
3/4	18	1 1/16-12	-N-AN12	1.03 (26.2)	1.25 (31.8)	
7/8	22	1 3/16-12	-N-AN14	1.09 (27.7)	1.37 (34.9)	
1	25	1 5/16-12	-N-AN16	1.13 (28.7)	1.50 (38.1)	
1 1/4	32	1 5/8-12	-N-AN20	1.23 (31.2)	2.00 (50.8)	
1 1/2	38	1 7/8-12	-N-AN24	1.42 (36.1)	2.25 (57.2)	
2	50	2 1/2-12	-N-AN32	1.75 (44.5)	2.87 (73.0)	

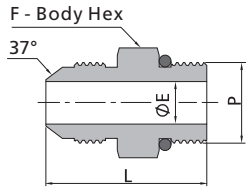
**Male Connectors**



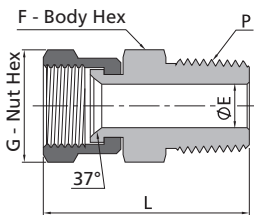
SAE 070102						
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)		
in.	mm			L	E	F
1/8	3	1/8	-CM-AN2-NS2	1.11 (28.2)	0.06 (1.6)	0.44 (11.1)
3/16	4	1/8	-CM-AN3-NS2	1.14 (29.0)	0.13 (3.2)	0.44 (11.1)
1/4	6	1/8	-CM-AN4-NS2	1.22 (31.0)	0.17 (4.4)	0.50 (12.7)
1/4	6	1/4	-CM-AN4-NS4	1.42 (36.0)	0.17 (4.4)	0.56 (14.3)
1/4	6	1/2	-CM-AN4-NS8	1.68 (42.7)	0.17 (4.4)	0.87 (22.2)
5/16	8	1/8	-CM-AN5-NS2	1.22 (31.0)	0.19 (4.8)	0.56 (14.3)
5/16	8	1/4	-CM-AN5-NS4	1.42 (36.1)	0.24 (6.0)	0.56 (14.3)
3/8	10	1/8	-CM-AN6-NS2	1.25 (31.8)	0.19 (4.8)	0.63 (15.9)
3/8	10	1/4	-CM-AN6-NS4	1.43 (36.3)	0.28 (7.1)	0.63 (15.9)
3/8	10	3/8	-CM-AN6-NS6	1.43 (36.3)	0.30 (7.5)	0.75 (19.1)
3/8	10	1/2	-CM-AN6-NS8	1.67 (42.5)	0.30 (7.5)	0.87 (22.2)
1/2	12	1/4	-CM-AN8-NS4	1.53 (38.9)	0.28 (7.1)	0.81 (20.6)
1/2	12	3/8	-CM-AN8-NS6	1.53 (38.9)	0.39 (9.9)	0.81 (20.6)
1/2	12	1/2	-CM-AN8-NS8	1.79 (45.5)	0.39 (9.9)	0.87 (22.2)
1/2	12	3/4	-CM-AN8-NS12	1.85 (47.0)	0.39 (9.9)	1.13 (28.6)
5/8	16	3/8	-CM-AN10-NS6	1.70 (43.1)	0.38 (9.6)	0.94 (23.8)
5/8	16	1/2	-CM-AN10-NS8	1.89 (48.0)	0.48 (12.3)	0.94 (23.8)
5/8	16	3/4	-CM-AN10-NS12	1.95 (49.5)	0.48 (12.3)	1.13 (28.6)
3/4	18	3/4	-CM-AN12-NS12	2.06 (52.3)	0.61 (15.5)	1.13 (28.6)
3/4	18	1	-CM-AN12-NS16	2.25 (57.1)	0.61 (15.5)	1.37 (34.9)
7/8	22	3/4	-CM-AN14-NS12	2.09 (53.1)	0.62 (15.7)	1.25 (31.8)
1	25	3/4	-CM-AN16-NS12	2.11 (53.5)	0.62 (15.7)	1.37 (34.9)
1	25	1	-CM-AN16-NS16	2.30 (58.4)	0.85 (21.5)	1.37 (34.9)
1 1/4	32	1	-CM-AN20-NS16	2.42 (61.5)	0.88 (22.4)	1.69 (42.9)
1 1/4	32	1 1/4	-CM-AN20-NS20	2.45 (62.2)	1.08 (27.5)	1.69 (42.9)
1 1/2	38	1 1/4	-CM-AN24-NS20	2.68 (68.1)	1.13 (28.6)	2.00 (50.8)
1 1/2	38	1 1/2	-CM-AN24-NS24	2.68 (68.1)	1.30 (33.0)	2.00 (50.8)
2	50	2	-CM-AN32-NS32	3.11 (79.0)	1.77 (45.0)	2.63 (66.7)

Fittings  
 Valves and Filters  
 Manifolds  
 Tubing, Pipes, Hoses and Connectors  
 Quick-connects, Vessels and Sample Cylinders  
 Tubing Tools, Other Elements

Male Connectors



SAE 070120						
Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, in. (mm)		
in.	mm			L	E	F
1/8	3	5/16-24	-CM-AN2-ST5	1.06 (26.9)	0.06 (1.6)	0.44 (11.1)
3/16	4	3/8-24	-CM-AN3-ST6	1.10 (27.9)	0.13 (3.2)	0.50 (12.7)
1/4	6	7/16-20	-CM-AN4-ST7	1.23 (31.2)	0.17 (4.4)	0.56 (14.3)
1/4	6	1/2-20	-CM-AN4-ST8	1.23 (31.2)	0.17 (4.4)	0.63 (15.9)
1/4	6	9/16-18	-CM-AN4-ST9	1.30 (33.0)	0.17 (4.4)	0.69 (17.5)
1/4	6	3/4-16	-CM-AN4-ST12	1.37 (34.8)	0.17 (4.4)	0.87 (22.2)
5/16	8	1/2-20	-CM-AN5-ST8	1.23 (31.2)	0.24 (6.0)	0.63 (15.9)
3/8	10	9/16-18	-CM-AN6-ST9	1.30 (33.0)	0.30 (7.5)	0.69 (17.5)
3/8	10	3/4-16	-CM-AN6-ST12	1.38 (35.1)	0.30 (7.5)	0.87 (22.2)
3/8	10	7/8-14	-CM-AN6-ST14	1.50 (38.1)	0.30 (7.5)	1.00 (25.4)
1/2	12	9/16-18	-CM-AN8-ST9	1.44 (36.6)	0.30 (7.5)	0.81 (20.6)
1/2	12	3/4-16	-CM-AN8-ST12	1.48 (37.6)	0.39 (9.9)	0.87 (22.2)
1/2	12	7/8-14	-CM-AN8-ST14	1.60 (40.6)	0.39 (9.9)	1.00 (25.4)
1/2	12	1 1/16-12	-CM-AN8-ST17	1.76 (44.7)	0.39 (9.9)	1.25 (31.8)
5/8	16	3/4-16	-CM-AN10-ST12	1.60 (40.6)	0.42 (10.7)	0.94 (23.8)
5/8	16	7/8-14	-CM-AN10-ST14	1.70 (43.2)	0.48 (12.3)	1.00 (25.4)
5/8	16	1 1/16-12	-CM-AN10-ST17	1.86 (47.2)	0.48 (12.3)	1.25 (31.8)
3/4	18	3/4-16	-CM-AN12-ST12	1.78 (45.2)	0.42 (10.7)	1.13 (28.6)
3/4	18	7/8-14	-CM-AN12-ST14	1.83 (46.4)	0.50 (12.7)	1.13 (28.6)
3/4	18	1 1/16-12	-CM-AN12-ST17	1.97 (50.0)	0.61 (15.5)	1.25 (31.8)
3/4	18	1 5/16-12	-CM-AN12-ST21	2.00 (50.8)	0.61 (15.5)	1.50 (38.1)
7/8	22	1 3/16-12	-CM-AN14-ST19	1.99 (50.5)	0.72 (18.3)	1.37 (34.9)
7/8	22	1 5/16-12	-CM-AN14-ST21	2.02 (51.3)	0.72 (18.3)	1.50 (38.1)
1	25	1 1/16-12	-CM-AN16-ST17	2.01 (51.1)	0.66 (16.7)	1.37 (34.9)
1	25	1 3/16-12	-CM-AN16-ST19	2.04 (51.8)	0.72 (18.3)	1.37 (34.9)
1	25	1 5/16-12	-CM-AN16-ST21	2.04 (51.8)	0.85 (21.5)	1.50 (38.1)



Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	G	F
1/8	3	1/8	-CM-AS2-NS2	1.18 (30.0)	0.06 (1.6)	0.44 (11.1)	0.44 (11.1)
3/16	4	1/8	-CM-AS3-NS2	1.26 (32.0)	0.13 (3.2)	0.50 (12.7)	0.44 (11.1)
1/4	6	1/8	-CM-AS4-NS2	1.35 (34.2)	0.17 (4.4)	0.56 (14.3)	0.50 (12.7)
5/16	8	1/8	-CM-AS5-NS2	1.38 (35.0)	0.24 (6.0)	0.63 (15.9)	0.56 (14.3)
3/8	10	1/4	-CM-AS6-NS4	1.58 (40.2)	0.30 (7.5)	0.69 (17.5)	0.63 (15.9)
1/2	12	3/8	-CM-AS8-NS6	1.68 (42.7)	0.39 (9.9)	0.87 (22.2)	0.81 (20.6)
5/8	16	1/2	-CM-AS10-NS8	2.02 (51.3)	0.48 (12.3)	1.00 (25.4)	0.94 (23.8)
3/4	18	3/4	-CM-AS12-NS12	2.15 (54.5)	0.61 (15.5)	1.25 (31.8)	1.13 (28.6)
7/8	22	3/4	-CM-AS14-NS12	2.20 (56.0)	0.71 (18.0)	1.37 (34.9)	1.25 (31.8)
1	25	1	-CM-AS16-NS16	2.51 (63.7)	0.85 (21.5)	1.50 (38.1)	1.37 (34.9)
1 1/4	32	1 1/4	-CM-AS20-NS20	2.71 (68.9)	1.08 (27.5)	2.00 (50.8)	1.69 (42.9)
1 1/2	38	1 1/2	-CM-AS24-NS24	3.06 (77.6)	1.30 (33.0)	2.25 (57.2)	2.00 (50.8)
2	50	2	-CM-AS32-NS32	3.66 (92.9)	1.77 (45.0)	2.87 (73.0)	2.63 (66.7)

Fittings

Valves and Filters

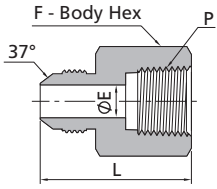
Manifolds

Tubing, Pipes, Hoses and Connectors

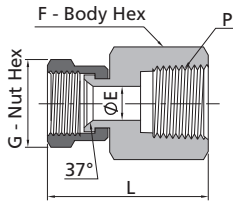
Quick-connects, Vessels and Sample Cylinders

Tubing Tools, Other Elements

Female Connectors



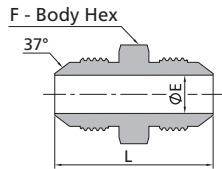
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)		
in.	mm			L	E	F
1/8	3	1/8	-CF-AN2-NS2	1.12 (28.4)	0.06 (1.6)	0.56 (14.3)
3/16	4	1/8	-CF-AN3-NS2	1.13 (28.7)	0.13 (3.2)	0.56 (14.3)
1/4	6	1/8	-CF-AN4-NS2	1.19 (30.2)	0.17 (4.4)	0.56 (14.3)
1/4	6	1/4	-CF-AN4-NS4	1.39 (35.3)	0.17 (4.4)	0.75 (19.1)
5/16	8	1/8	-CF-AN5-NS2	1.17 (29.7)	0.24 (6.0)	0.56 (14.3)
5/16	8	1/4	-CF-AN5-NS4	1.39 (35.3)	0.24 (6.0)	0.75 (19.1)
3/8	10	1/4	-CF-AN6-NS4	1.40 (35.6)	0.30 (7.5)	0.75 (19.1)
3/8	10	3/8	-CF-AN6-NS6	1.46 (37.1)	0.30 (7.5)	0.87 (22.2)
1/2	12	3/8	-CF-AN8-NS6	1.56 (39.6)	0.39 (9.9)	0.87 (22.2)
1/2	12	1/2	-CF-AN8-NS8	1.80 (45.6)	0.39 (9.9)	1.13 (28.6)
5/8	16	1/2	-CF-AN10-NS8	1.89 (48.0)	0.48 (12.3)	1.13 (28.6)
3/4	18	1/2	-CF-AN12-NS8	2.05 (52.1)	0.61 (15.5)	1.13 (28.6)
3/4	18	3/4	-CF-AN12-NS12	2.06 (52.3)	0.61 (15.5)	1.37 (34.9)
7/8	22	3/4	-CF-AN14-NS12	2.06 (52.3)	0.72 (18.3)	1.37 (34.9)
1	25	1	-CF-AN16-NS16	2.35 (59.7)	0.85 (21.5)	1.63 (41.3)
1 1/4	32	1 1/4	-CF-AN20-NS20	2.49 (63.2)	1.08 (27.5)	2.00 (50.8)
2	38	1 1/2	-CF-AN24-NS24	2.62 (66.5)	1.30 (33.0)	2.37 (60.3)
2	50	2	-CF-AN32-NS32	2.97 (75.4)	1.77 (45.0)	2.87 (73.0)



Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	G	F
1/8	3	1/8	-CF-AS2-NS2	1.42 (36.1)	0.06 (1.6)	0.44 (11.1)	0.56 (14.3)
3/16	4	1/8	-CF-AS3-NS2	1.47 (37.3)	0.13 (3.2)	0.50 (12.7)	0.56 (14.3)
1/4	6	1/8	-CF-AS4-NS2	1.56 (39.7)	0.17 (4.4)	0.56 (14.3)	0.56 (14.3)
5/16	8	1/8	-CF-AS5-NS2	1.59 (40.5)	0.24 (6.0)	0.63 (15.9)	0.56 (14.3)
3/8	10	1/4	-CF-AS6-NS4	1.80 (45.8)	0.30 (7.5)	0.69 (17.5)	0.75 (19.1)
1/2	12	3/8	-CF-AS8-NS6	1.85 (47.0)	0.39 (9.9)	0.87 (22.2)	0.87 (22.2)
5/8	16	1/2	-CF-AS10-NS8	2.03 (51.6)	0.48 (12.3)	1.00 (25.4)	1.13 (28.6)
3/4	18	3/4	-CF-AS12-NS12	2.62 (66.6)	0.61 (15.5)	1.25 (31.8)	1.37 (34.9)
7/8	22	3/4	-CF-AS14-NS12	2.67 (67.8)	0.71 (18.0)	1.37 (34.9)	1.37 (34.9)
1	25	1	-CF-AS16-NS16	2.89 (73.5)	0.85 (21.5)	1.50 (38.1)	1.63 (41.3)
1 1/4	32	1 1/4	-CF-AS20-NS20	3.07 (78.1)	1.08 (27.5)	2.00 (50.8)	2.00 (50.8)
1 1/2	38	1 1/2	-CF-AS24-NS24	3.41 (86.7)	1.30 (33.0)	2.37 (60.3)	2.37 (60.3)
2	50	2	-CF-AS32-NS32	3.52 (89.3)	1.77 (45.0)	2.87 (73.0)	2.63 (66.7)

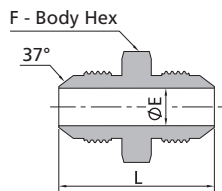
Fittings  
Valves and Filters  
Manifolds  
Tubing, Pipes, Hoses and Connectors  
Quick-connects, Vessels and Sample Cylinders  
Tubing Tools, Other Elements

Unions



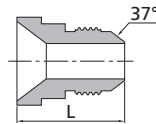
SAE 070101					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	F
1/8	3	-U-AN2	1.17 (29.7)	0.06 (1.6)	0.44 (11.1)
3/16	4	-U-AN3	1.23 (31.2)	0.13 (3.2)	0.44 (11.1)
1/4	6	-U-AN4	1.37 (34.8)	0.17 (4.4)	0.50 (12.7)
5/16	8	-U-AN5	1.37 (34.8)	0.24 (6.0)	0.56 (14.3)
3/8	10	-U-AN6	1.41 (35.8)	0.30 (7.5)	0.63 (15.9)
1/2	12	-U-AN8	1.62 (41.1)	0.39 (9.9)	0.81 (20.6)
5/8	16	-U-AN10	1.88 (47.8)	0.48 (12.3)	0.94 (23.8)
3/4	18	-U-AN12	2.16 (54.9)	0.61 (15.5)	1.13 (28.6)
7/8	22	-U-AN14	2.21 (56.1)	0.72 (18.3)	1.25 (31.8)
1	25	-U-AN16	2.25 (57.2)	0.85 (21.5)	1.37 (34.9)
1 1/4	32	-U-AN20	2.43 (61.7)	1.08 (27.5)	1.69 (42.9)
1 1/2	38	-U-AN24	2.75 (69.8)	1.30 (33.0)	2.00 (50.8)
2	50	-U-AN32	3.40 (86.4)	1.77 (45.0)	2.63 (66.7)

Large Hex Unions



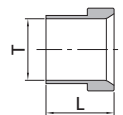
SAE 070119					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	F
1/8	3	-HU-AN2	1.17 (29.7)	0.06 (1.6)	0.56 (14.3)
3/16	4	-HU-AN3	1.23 (31.2)	0.13 (3.2)	0.63 (15.9)
1/4	6	-HU-AN4	1.37 (34.8)	0.17 (4.4)	0.69 (17.5)
5/16	8	-HU-AN5	1.37 (34.8)	0.24 (6.0)	0.75 (19.1)
3/8	10	-HU-AN6	1.41 (35.8)	0.30 (7.5)	0.81 (20.6)
1/2	12	-HU-AN8	1.62 (41.1)	0.39 (9.9)	1.00 (25.4)
5/8	16	-HU-AN10	1.88 (47.8)	0.48 (12.3)	1.13 (28.6)
3/4	18	-HU-AN12	2.16 (54.9)	0.61 (15.5)	1.37 (34.9)
7/8	22	-HU-AN14	2.21 (56.1)	0.72 (18.3)	1.50 (38.1)
1	25	-HU-AN16	2.25 (57.2)	0.85 (21.5)	1.63 (41.3)
1 1/4	32	-HU-AN20	2.43 (61.7)	1.08 (27.5)	1.87 (47.6)
1 1/2	38	-HU-AN24	2.75 (69.8)	1.30 (33.0)	2.13 (54.0)
2	50	-HU-AN32	3.40 (86.4)	1.77 (45.0)	2.75 (69.9)

Reducing Adapters



SAE 070123				
Tube O.D.		Basic Ordering Number	L	
in.-mm	in.-mm		in.(mm)	
3/8-10	1/4-6	-RA-AN6-AN4	0.97 (24.6)	
1/2-12	1/4-6	-RA-AN8-AN4	1.00 (25.4)	
1/2-12	3/8-10	-RA-AN8-AN6	1.00 (25.4)	
5/8-16	1/4-6	-RA-AN10-AN4	1.03 (26.2)	
5/8-16	3/8-10	-RA-AN10-AN6	1.03 (26.2)	
3/4-18	1/4-6	-RA-AN12-AN4	1.09 (27.7)	
3/4-18	3/8-10	-RA-AN12-AN6	1.09 (27.7)	
3/4-18	1/2-12	-RA-AN12-AN8	1.19 (30.2)	
7/8-22	3/8-10	-RA-AN14-AN6	1.13 (28.7)	
7/8-22	5/8-16	-RA-AN14-AN10	1.33 (33.7)	
1-25	1/4-6	-RA-AN16-AN4	1.22 (31.0)	
1-25	3/8-10	-RA-AN16-AN6	1.22 (31.0)	
1-25	1/2-12	-RA-AN16-AN8	1.27 (32.3)	
1-25	5/8-16	-RA-AN16-AN10	1.38 (35.1)	
1-25	3/4-18	-RA-AN16-AN12	1.47 (37.3)	
1 1/4-32	3/4-18	-RA-AN20-AN12	1.53 (38.8)	
1 1/4-32	1-25	-RA-AN20-AN16	1.59 (40.3)	
1 1/2-38	1/2-12	-RA-AN24-AN8	1.56 (39.6)	
1 1/2-38	3/4-18	-RA-AN24-AN12	1.63 (41.4)	
1 1/2-38	1-25	-RA-AN24-AN16	1.63 (41.4)	
2-50	1 1/2-38	-RA-AN32-AN24	1.91 (48.5)	

Sleeves



SAE 070115				
T-Tube O.D.		Basic Ordering Number		L in.(mm)
in.	mm	in.	mm	
1/8	3	-SL-AN2	-SL-AN3M	0.34 (8.6)
3/16	4	-SL-AN3	-SL-AN4M	0.34 (8.6)
1/4	6	-SL-AN4	-SL-AN6M	0.41 (10.4)
5/16	8	-SL-AN5	-SL-AN8M	0.44 (11.2)
3/8	10	-SL-AN6	-SL-AN10M	0.50 (12.7)
1/2	12	-SL-AN8	-SL-AN12M	0.56 (14.2)
5/8	16	-SL-AN10	-SL-AN16M	0.66 (16.8)
3/4	18	-SL-AN12	-SL-AN18M	0.68 (17.3)
7/8	22	-SL-AN14	-SL-AN22M	0.76 (19.3)
1	25	-SL-AN16	-SL-AN25M	0.78 (19.8)
1 1/4	32	-SL-AN20	-SL-AN32M	0.91 (23.1)
1 1/2	38	-SL-AN24	-SL-AN38M	1.12 (28.4)
2	50	-SL-AN32	-SL-AN50M	1.19 (30.2)

Fittings

Valves and Filters

Manifolds

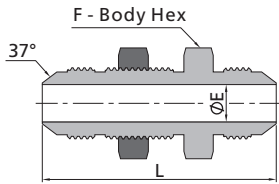
Tubing, Pipes, Hoses  
and Connectors

Quick-connects, Vessels  
and Sample Cylinders

Tubing Tools,  
Other Elements

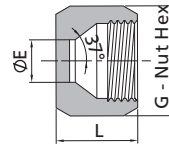


**Bulkhead Unions**



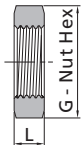
SAE 070601					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	F
3/16	4	-BU-AN3	1.90 (48.3)	0.13 (3.2)	0.63 (15.9)
1/4	6	-BU-AN4	2.07 (52.6)	0.17 (4.4)	0.69 (17.5)
5/16	8	-BU-AN5	2.07 (52.6)	0.24 (6.0)	0.75 (19.1)
3/8	10	-BU-AN6	2.18 (55.4)	0.30 (7.5)	0.81 (20.6)
1/2	12	-BU-AN8	2.44 (62.0)	0.39 (9.9)	1.00 (25.4)
5/8	16	-BU-AN10	2.74 (69.6)	0.48 (12.3)	1.13 (28.6)
3/4	18	-BU-AN12	3.09 (78.5)	0.61 (15.5)	1.37 (34.9)
7/8	22	-BU-AN14	3.12 (79.2)	0.72 (18.3)	1.50 (38.1)
1	25	-BU-AN16	3.14 (79.8)	0.85 (21.5)	1.63 (41.3)
1 1/4	32	-BU-AN20	3.31 (84.1)	1.08 (27.5)	1.87 (47.6)
1 1/2	38	-BU-AN24	3.52 (89.4)	1.30 (33.0)	2.13 (54.0)
2	50	-BU-AN32	4.20 (106.7)	1.77 (45.0)	2.75 (69.9)

**Tube Caps**



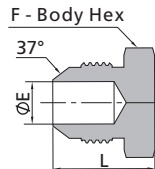
SAE 070112					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	G
1/8	3	-TC-AN2	0.50 (12.7)	0.06 (1.6)	0.37 (9.5)
3/16	4	-TC-AN3	0.56 (14.3)	0.13 (3.2)	0.44 (11.1)
1/4	6	-TC-AN4	0.59 (15.1)	0.17 (4.4)	0.56 (14.3)
5/16	8	-TC-AN5	0.61 (15.5)	0.24 (6.0)	0.63 (15.9)
3/8	10	-TC-AN6	0.63 (15.9)	0.30 (7.5)	0.69 (17.5)
1/2	12	-TC-AN8	0.75 (19.1)	0.39 (9.9)	0.87 (22.2)
5/8	16	-TC-AN10	0.84 (21.4)	0.48 (12.3)	1.00 (25.4)
3/4	18	-TC-AN12	0.91 (23.0)	0.61 (15.5)	1.25 (31.8)
7/8	22	-TC-AN14	0.97 (24.6)	0.72 (18.3)	1.37 (34.9)
1	25	-TC-AN16	1.02 (25.8)	0.85 (21.5)	1.50 (38.1)
1 1/4	32	-TC-AN20	1.06 (27.0)	1.08 (27.5)	2.00 (50.8)
1 1/2	38	-TC-AN24	1.19 (30.2)	1.30 (33.0)	2.25 (57.2)
2	50	-TC-AN32	1.44 (36.5)	1.77 (45.0)	2.87 (73.0)

**Bulkhead Lock Nuts**



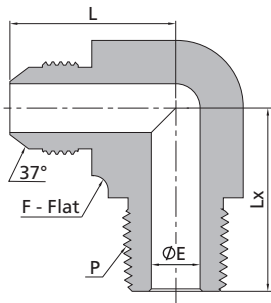
SAE 070118				
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)	
in.	mm		L	G
3/16	4	-BN-AN3	0.22 (5.6)	0.63 (15.9)
1/4	6	-BN-AN4	0.28 (7.1)	0.69 (17.5)
5/16	8	-BN-AN5	0.28 (7.1)	0.75 (19.1)
3/8	10	-BN-AN6	0.27 (6.9)	0.81 (20.6)
1/2	12	-BN-AN8	0.31 (7.9)	1.00 (25.4)
5/8	16	-BN-AN10	0.36 (9.1)	1.13 (28.6)
3/4	18	-BN-AN12	0.41 (10.4)	1.37 (34.9)
7/8	22	-BN-AN14	0.41 (10.4)	1.50 (38.1)
1	25	-BN-AN16	0.41 (10.4)	1.63 (41.3)
1 1/4	32	-BN-AN20	0.41 (10.4)	1.87 (47.6)
1 1/2	38	-BN-AN24	0.41 (10.4)	2.13 (54.0)
2	50	-BN-AN32	0.41 (10.4)	2.75 (69.9)

**Tube Plugs**



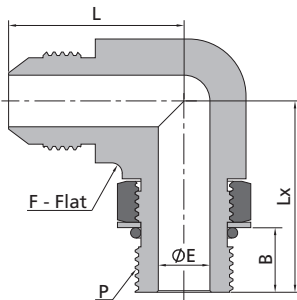
SAE 070109					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	F
1/8	3	-TP-AN2	0.70 (17.8)	0.06 (1.6)	0.44 (11.1)
3/16	4	-TP-AN3	0.73 (18.5)	0.13 (3.2)	0.44 (11.1)
1/4	6	-TP-AN4	0.80 (20.3)	0.17 (4.4)	0.50 (12.7)
5/16	8	-TP-AN5	0.80 (20.3)	0.24 (6.0)	0.56 (14.3)
3/8	10	-TP-AN6	0.84 (21.3)	0.30 (7.5)	0.63 (15.9)
1/2	12	-TP-AN8	0.94 (23.9)	0.39 (9.9)	0.81 (20.6)
5/8	16	-TP-AN10	1.10 (27.9)	0.48 (12.3)	0.94 (23.8)
3/4	18	-TP-AN12	1.28 (32.5)	0.61 (15.5)	1.13 (28.6)
7/8	22	-TP-AN14	1.31 (33.3)	0.72 (18.3)	1.25 (31.8)
1	25	-TP-AN16	1.33 (33.8)	0.85 (21.5)	1.37 (34.9)
1 1/4	32	-TP-AN20	1.45 (36.8)	1.08 (27.5)	1.69 (42.9)
1 1/2	38	-TP-AN24	1.65 (41.9)	1.30 (33.0)	2.00 (50.8)
2	50	-TP-AN32	2.05 (52.1)	1.77 (45.0)	2.63 (66.7)

Male Elbows



SAE 070202							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-LM-AN2-NS2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.72 (18.3)
3/16	4	1/8	-LM-AN3-NS2	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	0.72 (18.3)
1/4	6	1/8	-LM-AN4-NS2	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	0.78 (19.8)
1/4	6	1/4	-LM-AN4-NS4	1.06 (26.9)	0.17 (4.4)	0.56 (14.3)	1.09 (27.7)
5/16	8	1/8	-LM-AN5-NS2	0.95 (24.1)	0.19 (4.8)	0.56 (14.3)	0.78 (19.8)
5/16	8	1/4	-LM-AN5-NS4	1.06 (26.9)	0.24 (6.0)	0.56 (14.3)	1.09 (27.7)
3/8	10	1/8	-LM-AN6-NS2	1.06 (26.9)	0.19 (4.8)	0.56 (14.3)	0.90 (22.8)
3/8	10	1/4	-LM-AN6-NS4	1.06 (26.9)	0.28 (7.1)	0.56 (14.3)	1.09 (27.7)
3/8	10	3/8	-LM-AN6-NS6	1.14 (29.0)	0.30 (7.5)	0.69 (17.5)	1.22 (31.0)
3/8	10	1/2	-LM-AN6-NS8	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	1.47 (37.3)
1/2	12	1/4	-LM-AN8-NS4	1.25 (31.8)	0.28 (7.1)	0.81 (20.6)	1.22 (31.0)
1/2	12	3/8	-LM-AN8-NS6	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.22 (31.0)
1/2	12	1/2	-LM-AN8-NS8	1.33 (33.7)	0.39 (9.9)	0.81 (20.6)	1.47 (37.3)
1/2	12	3/4	-LM-AN8-NS12	1.42 (36.0)	0.35 (9.0)	1.00 (25.4)	1.59 (40.4)
5/8	16	3/8	-LM-AN10-NS6	1.45 (36.8)	0.39 (9.9)	0.81 (20.6)	1.30 (33.0)
5/8	16	1/2	-LM-AN10-NS8	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.47 (37.3)
5/8	16	3/4	-LM-AN10-NS12	1.53 (38.9)	0.48 (12.3)	1.00 (25.4)	1.59 (40.4)
3/4	18	3/4	-LM-AN12-NS12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.59 (40.4)
3/4	18	1	-LM-AN12-NS16	1.66 (42.2)	0.61 (15.5)	1.25 (31.8)	1.98 (50.4)
7/8	22	3/4	-LM-AN14-NS12	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.69 (42.9)
1	25	3/4	-LM-AN16-NS12	1.81 (46.0)	0.72 (18.3)	1.37 (34.9)	1.78 (45.2)
1	25	1	-LM-AN16-NS16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	1.97 (50.0)
1 1/4	32	1	-LM-AN20-NS16	2.06 (52.3)	0.94 (23.8)	1.69 (42.9)	2.35 (59.6)
1 1/4	32	1 1/4	-LM-AN20-NS20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.38 (60.5)
1 1/2	38	1 1/2	-LM-AN24-NS24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.64 (67.1)
2	50	2	-LM-AN32-NS32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.00 (76.2)

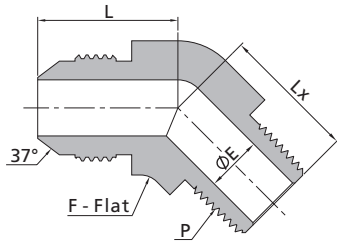
Adjustable Male Elbows



SAE 070220								
Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, in. (mm)				
in.	mm			L	E	F	Lx	B
1/8	3	5/16-24	-LP-AN2-ST5	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.94 (23.9)	0.33 (8.4)
3/16	4	3/8-24	-LP-AN3-ST6	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	0.94 (23.9)	0.33 (8.4)
1/4	6	7/16-20	-LP-AN4-ST7	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	1.03 (26.2)	0.39 (9.8)
5/16	8	1/2-20	-LP-AN5-ST8	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	1.13 (28.7)	0.39 (9.8)
3/8	10	9/16-18	-LP-AN6-ST9	1.06 (26.9)	0.30 (7.5)	0.63 (15.9)	1.25 (31.8)	0.43 (11.0)
1/2	12	3/4-16	-LP-AN8-ST12	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.45 (36.8)	0.49 (12.5)
5/8	16	7/8-14	-LP-AN10-ST14	1.45 (36.8)	0.48 (12.3)	0.94 (23.8)	1.70 (43.2)	0.56 (14.2)
3/4	18	1 1/16-12	-LP-AN12-ST17	1.66 (42.2)	0.61 (15.5)	1.25 (31.8)	1.94 (49.3)	0.65 (16.5)
7/8	22	1 3/16-12	-LP-AN14-ST19	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	2.00 (50.8)	0.65 (16.5)
1	25	1 5/16-12	-LP-AN16-ST21	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	2.05 (52.1)	0.65 (16.5)
1 1/4	32	1 5/8-12	-LP-AN20-ST26	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.25 (57.2)	0.65 (16.5)
1 1/2	38	1 7/8-12	-LP-AN24-ST30	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.39 (60.7)	0.65 (16.5)
2	50	2 1/2-12	-LP-AN32-ST40	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	2.89 (73.4)	0.65 (16.5)

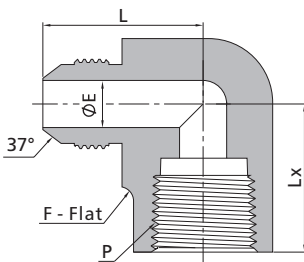
Fittings  
Valves and Filters  
Manifolds  
Tubing, Pipes, Hoses and Connectors  
Quick-connects, Vessels and Sample Cylinders  
Tubing Tools, Other Elements

45° Male Elbows



SAE 070302							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-VM-AN2-NS2	0.69 (17.5)	0.06 (1.6)	0.44 (11.1)	0.52 (13.2)
3/16	4	1/8	-VM-AN3-NS2	0.69 (17.5)	0.13 (3.2)	0.44 (11.1)	0.52 (13.2)
1/4	6	1/8	-VM-AN4-NS2	0.72 (18.3)	0.17 (4.4)	0.50 (12.7)	0.64 (16.3)
5/16	8	1/8	-VM-AN5-NS2	0.77 (19.6)	0.19 (4.8)	0.56 (14.3)	0.64 (16.3)
3/8	10	1/4	-VM-AN6-NS4	0.83 (21.1)	0.28 (7.1)	0.56 (14.3)	0.86 (21.8)
1/2	12	3/8	-VM-AN8-NS6	0.98 (24.9)	0.39 (9.9)	0.69 (17.5)	0.95 (24.1)
5/8	16	1/2	-VM-AN10-NS8	1.11 (28.2)	0.48 (12.3)	0.81 (20.6)	1.17 (29.7)
3/4	18	3/4	-VM-AN12-NS12	1.28 (32.5)	0.61 (15.5)	1.06 (27.0)	1.20 (30.5)
7/8	22	3/4	-VM-AN14-NS12	1.45 (36.8)	0.72 (18.3)	1.25 (31.8)	1.30 (33.0)
1	25	1	-VM-AN16-NS16	1.47 (37.3)	0.85 (21.5)	1.37 (34.9)	1.48 (37.6)
1 1/4	32	1 1/4	-VM-AN20-NS20	1.59 (40.4)	1.08 (27.5)	1.69 (42.9)	1.67 (42.4)
1 1/2	38	1 1/2	-VM-AN24-NS24	1.78 (45.2)	1.30 (33.0)	2.00 (50.8)	1.77 (45.0)
2	50	2	-VM-AN32-NS32	2.22 (56.4)	1.77 (45.0)	2.50 (63.5)	2.11 (53.6)

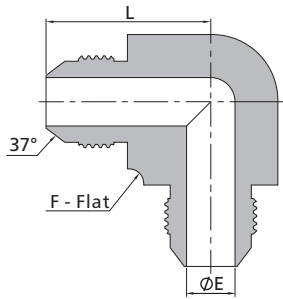
Female Elbows



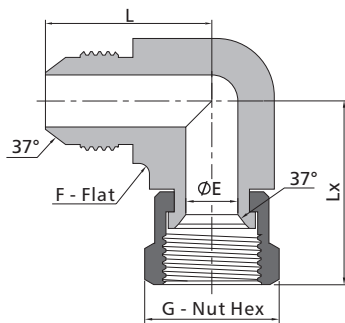
SAE 070203							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-LF-AN2-NS2	1.00 (25.4)	0.06 (1.6)	0.56 (14.3)	0.66 (16.8)
3/16	4	1/8	-LF-AN3-NS2	1.03 (26.2)	0.13 (3.2)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/8	-LF-AN4-NS2	1.08 (27.4)	0.17 (4.4)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/4	-LF-AN4-NS4	1.22 (30.9)	0.17 (4.4)	0.81 (20.6)	0.88 (22.4)
5/16	8	1/8	-LF-AN5-NS2	1.08 (27.4)	0.24 (6.0)	0.56 (14.3)	0.66 (16.8)
5/16	8	1/4	-LF-AN5-NS4	1.22 (30.9)	0.24 (6.0)	0.81 (20.6)	0.88 (22.4)
3/8	10	1/8	-LF-AN6-NS2	1.06 (26.9)	0.30 (7.5)	0.63 (15.9)	0.66 (16.8)
3/8	10	1/4	-LF-AN6-NS4	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	0.88 (22.4)
3/8	10	3/8	-LF-AN6-NS6	1.31 (33.2)	0.30 (7.5)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/4	-LF-AN8-NS4	1.24 (31.6)	0.39 (9.9)	0.81 (20.6)	0.88 (22.4)
1/2	12	3/8	-LF-AN8-NS6	1.42 (36.1)	0.39 (9.9)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/2	-LF-AN8-NS8	1.42 (36.1)	0.39 (9.9)	1.06 (27.0)	1.23 (31.2)
5/8	16	1/2	-LF-AN10-NS8	1.64 (41.7)	0.48 (12.3)	1.06 (27.0)	1.23 (31.2)
3/4	18	1/2	-LF-AN12-NS8	1.66 (42.1)	0.61 (15.5)	1.25 (31.8)	1.23 (31.2)
3/4	18	3/4	-LF-AN12-NS12	1.89 (48.0)	0.61 (15.5)	1.37 (34.9)	1.36 (34.5)
7/8	22	3/4	-LF-AN14-NS12	1.86 (47.2)	0.72 (18.3)	1.37 (34.9)	1.42 (36.1)
1	25	1	-LF-AN16-NS16	2.17 (55.1)	0.85 (21.5)	1.69 (42.9)	1.62 (41.1)
1 1/4	32	1 1/4	-LF-AN20-NS20	2.33 (59.2)	1.08 (27.5)	2.00 (50.8)	1.70 (43.2)
1 1/2	38	1 1/2	-LF-AN24-NS24	2.89 (73.4)	1.30 (33.0)	2.50 (63.5)	2.08 (52.8)
2	50	2	-LF-AN32-NS32	3.30 (83.8)	1.77 (45.0)	2.50 (63.5)	2.39 (60.7)

Fittings  
 Valves and Filters  
 Manifolds  
 Tubing, Pipes, Hoses and Connectors  
 Quick-connects, Vessels and Sample Cylinders  
 Tubing Tools, Other Elements

Union Elbows



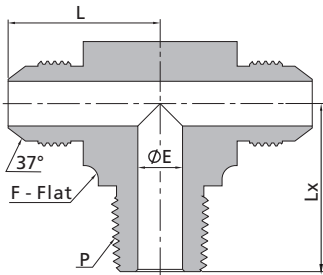
SAE 070201						
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)			
in.	mm		L	E	F	
1/8	3	-LU-AN2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	
3/16	4	-LU-AN3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	
1/4	6	-LU-AN4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	
5/16	8	-LU-AN5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	
3/8	10	-LU-AN6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)	
1/2	12	-LU-AN8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	
5/8	16	-LU-AN10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	
3/4	18	-LU-AN12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	
7/8	22	-LU-AN14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	
1	25	-LU-AN16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	
1 1/4	32	-LU-AN20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	
1 1/2	38	-LU-AN24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	
2	50	-LU-AN32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	



SAE 070221								
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)					
in.	mm		L	E	F	Lx	G	
1/8	3	-LU-AN2-AS2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.97 (24.6)	0.44 (11.1)	
3/16	4	-LU-AN3-AS3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	1.00 (25.4)	0.50 (12.7)	
1/4	6	-LU-AN4-AS4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	1.00 (25.4)	0.56 (14.3)	
5/16	8	-LU-AN5-AS5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	1.06 (26.9)	0.63 (15.9)	
3/8	10	-LU-AN6-AS6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)	1.25 (31.8)	0.69 (17.5)	
1/2	12	-LU-AN8-AS8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.38 (35.1)	0.87 (22.2)	
5/8	16	-LU-AN10-AS10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.62 (41.1)	1.00 (25.4)	
3/4	18	-LU-AN12-AS12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.75 (44.4)	1.25 (31.8)	
7/8	22	-LU-AN14-AS14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.78 (45.2)	1.37 (34.9)	
1	25	-LU-AN16-AS16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	2.00 (50.8)	1.50 (38.1)	
1 1/4	32	-LU-AN20-AS20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.31 (58.7)	2.00 (50.8)	
1 1/2	38	-LU-AN24-AS24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.59 (65.8)	2.37 (60.3)	
2	50	-LU-AN32-AS32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.38 (85.9)	2.87 (73.0)	

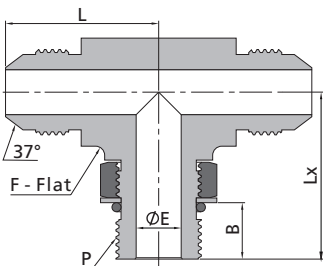
Fittings  
Valves and Filters  
Manifolds  
Tubing, Pipes, Hoses and Connectors  
Quick-connects, Vessels and Sample Cylinders  
Tubing Tools, Other Elements

Male Branch Tees



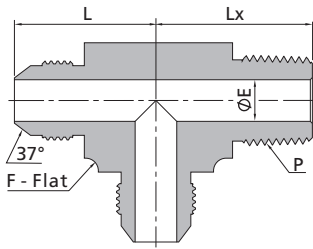
SAE 070425								
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)				
in.	mm			L	E	F	Lx	
1/8	3	1/8	-TTM-AN2-NS2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.72 (18.3)	
3/16	4	1/8	-TTM-AN3-NS2	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	0.72 (18.3)	
1/4	6	1/8	-TTM-AN4-NS2	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	0.78 (19.8)	
1/4	6	1/4	-TTM-AN4-NS4	1.06 (26.9)	0.17 (4.4)	0.56 (14.3)	1.09 (27.7)	
5/16	8	1/8	-TTM-AN5-NS2	0.95 (24.1)	0.19 (4.8)	0.56 (14.3)	0.78 (19.8)	
5/16	8	1/4	-TTM-AN5-NS4	1.06 (26.9)	0.24 (6.0)	0.56 (14.3)	1.09 (27.7)	
3/8	10	1/8	-TTM-AN6-NS2	1.06 (26.9)	0.19 (4.8)	0.56 (14.3)	0.90 (22.8)	
3/8	10	1/4	-TTM-AN6-NS4	1.06 (26.9)	0.28 (7.1)	0.56 (14.3)	1.09 (27.7)	
3/8	10	3/8	-TTM-AN6-NS6	1.14 (29.0)	0.30 (7.5)	0.69 (17.5)	1.22 (31.0)	
3/8	10	1/2	-TTM-AN6-NS8	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	1.47 (37.3)	
1/2	12	1/4	-TTM-AN8-NS4	1.25 (31.8)	0.28 (7.1)	0.81 (20.6)	1.22 (31.0)	
1/2	12	3/8	-TTM-AN8-NS6	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.22 (31.0)	
1/2	12	1/2	-TTM-AN8-NS8	1.33 (33.7)	0.39 (9.9)	0.81 (20.6)	1.47 (37.3)	
1/2	12	3/4	-TTM-AN8-NS12	1.42 (36.0)	0.39 (9.9)	1.00 (25.4)	1.59 (40.4)	
5/8	16	3/8	-TTM-AN10-NS6	1.45 (36.8)	0.39 (9.9)	0.81 (20.6)	1.30 (33.0)	
5/8	16	1/2	-TTM-AN10-NS8	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.47 (37.3)	
5/8	16	3/4	-TTM-AN10-NS12	1.53 (38.9)	0.48 (12.3)	1.00 (25.4)	1.59 (40.4)	
3/4	18	3/4	-TTM-AN12-NS12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.59 (40.4)	
3/4	18	1	-TTM-AN12-NS16	1.66 (42.2)	0.61 (15.5)	1.25 (31.8)	1.98 (50.4)	
7/8	22	3/4	-TTM-AN14-NS12	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.69 (42.9)	
1	25	3/4	-TTM-AN16-NS12	1.81 (46.0)	0.72 (18.3)	1.37 (34.9)	1.78 (45.2)	
1	25	1	-TTM-AN16-NS16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	1.97 (50.0)	
1 1/4	32	1	-TTM-AN20-NS16	2.06 (52.3)	0.94 (23.8)	1.69 (42.9)	2.35 (59.6)	
1 1/4	32	1 1/4	-TTM-AN20-NS20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.38 (60.5)	
1 1/2	38	1 1/2	-TTM-AN24-NS24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.64 (67.1)	
2	50	2	-TTM-AN32-NS32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.00 (76.2)	

Adjustable Male Branch Tees



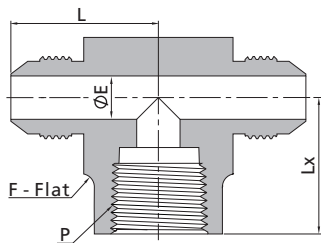
SAE 070429								
Tube O.D.		P-SAE/MS Thread Size	Basic Ordering Number	Dimension, in. (mm)				
in.	mm			L	E	F	Lx	B
1/8	3	5/16-24	-TTP-AN2-ST5	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.94 (23.9)	0.33 (8.4)
3/16	4	3/8-24	-TTP-AN3-ST6	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	0.94 (23.9)	0.33 (8.4)
1/4	6	7/16-20	-TTP-AN4-ST7	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	1.03 (26.2)	0.39 (9.8)
5/16	8	1/2-20	-TTP-AN5-ST8	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	1.13 (28.7)	0.39 (9.8)
3/8	10	9/16-18	-TTP-AN6-ST9	1.06 (26.9)	0.30 (7.5)	0.63 (15.9)	1.25 (31.8)	0.43 (11.0)
1/2	12	3/4-16	-TTP-AN8-ST12	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.45 (36.8)	0.49 (12.5)
5/8	16	7/8-14	-TTP-AN10-ST14	1.45 (36.8)	0.48 (12.3)	0.94 (23.8)	1.70 (43.2)	0.56 (14.2)
3/4	18	1 1/16-12	-TTP-AN12-ST17	1.66 (42.2)	0.61 (15.5)	1.25 (31.8)	1.94 (49.3)	0.65 (16.5)
7/8	22	1 3/16-12	-TTP-AN14-ST19	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	2.00 (50.8)	0.65 (16.5)
1	25	1 5/16-12	-TTP-AN16-ST21	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	2.05 (52.1)	0.65 (16.5)
1 1/4	32	1 5/8-12	-TTP-AN20-ST26	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.25 (57.2)	0.65 (16.5)
1 1/2	38	1 7/8-12	-TTP-AN24-ST30	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.39 (60.7)	0.65 (16.5)
2	50	2 1/2-12	-TTP-AN32-ST40	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	2.89 (73.4)	0.65 (16.5)

Male Run Tees



SAE 070424							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-TMT-AN2-NS2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.72 (18.3)
3/16	4	1/8	-TMT-AN3-NS2	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	0.72 (18.3)
1/4	6	1/8	-TMT-AN4-NS2	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	0.78 (19.8)
1/4	6	1/4	-TMT-AN4-NS4	1.06 (26.9)	0.17 (4.4)	0.56 (14.3)	1.09 (27.7)
5/16	8	1/8	-TMT-AN5-NS2	0.95 (24.1)	0.19 (4.8)	0.56 (14.3)	0.78 (19.8)
5/16	8	1/4	-TMT-AN5-NS4	1.06 (26.9)	0.24 (6.0)	0.56 (14.3)	1.09 (27.7)
3/8	10	1/8	-TMT-AN6-NS2	1.06 (26.9)	0.19 (4.8)	0.56 (14.3)	0.90 (22.8)
3/8	10	1/4	-TMT-AN6-NS4	1.06 (26.9)	0.28 (7.1)	0.56 (14.3)	1.09 (27.7)
3/8	10	3/8	-TMT-AN6-NS6	1.14 (29.0)	0.30 (7.5)	0.69 (17.5)	1.22 (31.0)
3/8	10	1/2	-TMT-AN6-NS8	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	1.47 (37.3)
1/2	12	1/4	-TMT-AN8-NS4	1.25 (31.8)	0.28 (7.1)	0.81 (20.6)	1.22 (31.0)
1/2	12	3/8	-TMT-AN8-NS6	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.22 (31.0)
1/2	12	1/2	-TMT-AN8-NS8	1.33 (33.7)	0.39 (9.9)	0.81 (20.6)	1.47 (37.3)
1/2	12	3/4	-TMT-AN8-NS12	1.42 (36.0)	0.39 (9.9)	1.00 (25.4)	1.59 (40.4)
5/8	16	3/8	-TMT-AN10-NS6	1.45 (36.8)	0.39 (9.9)	0.81 (20.6)	1.30 (33.0)
5/8	16	1/2	-TMT-AN10-NS8	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.47 (37.3)
5/8	16	3/4	-TMT-AN10-NS12	1.53 (38.9)	0.48 (12.3)	1.00 (25.4)	1.59 (40.4)
3/4	18	3/4	-TMT-AN12-NS12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.59 (40.4)
3/4	18	1	-TMT-AN12-NS16	1.66 (42.2)	0.61 (15.5)	1.25 (31.8)	1.98 (50.4)
7/8	22	3/4	-TMT-AN14-NS12	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.69 (42.9)
1	25	3/4	-TMT-AN16-NS12	1.81 (46.0)	0.72 (18.3)	1.37 (34.9)	1.78 (45.2)
1	25	1	-TMT-AN16-NS16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	1.97 (50.0)
1 1/4	32	1	-TMT-AN20-NS16	2.06 (52.3)	0.94 (23.8)	1.69 (42.9)	2.35 (59.6)
1 1/4	32	1 1/4	-TMT-AN20-NS20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.38 (60.5)
1 1/2	38	1 1/2	-TMT-AN24-NS24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.64 (67.1)
2	50	2	-TMT-AN32-NS32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.00 (76.2)

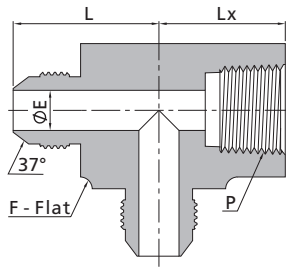
Female Branch Tees



SAE 070427							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-TTF-AN2-NS2	1.00 (25.4)	0.06 (1.6)	0.56 (14.3)	0.66 (16.8)
3/16	4	1/8	-TTF-AN3-NS2	1.03 (26.2)	0.13 (3.2)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/8	-TTF-AN4-NS2	1.08 (27.4)	0.17 (4.4)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/4	-TTF-AN4-NS4	1.22 (30.9)	0.17 (4.4)	0.81 (20.6)	0.88 (22.4)
5/16	8	1/8	-TTF-AN5-NS2	1.08 (27.4)	0.24 (6.0)	0.56 (14.3)	0.66 (16.8)
5/16	8	1/4	-TTF-AN5-NS4	1.22 (30.9)	0.24 (6.0)	0.81 (20.6)	0.88 (22.4)
3/8	10	1/8	-TTF-AN6-NS2	1.06 (26.9)	0.30 (7.5)	0.63 (15.9)	0.66 (16.8)
3/8	10	1/4	-TTF-AN6-NS4	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	0.88 (22.4)
3/8	10	3/8	-TTF-AN6-NS6	1.31 (33.2)	0.30 (7.5)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/4	-TTF-AN8-NS4	1.24 (31.6)	0.39 (9.9)	0.81 (20.6)	0.88 (22.4)
1/2	12	3/8	-TTF-AN8-NS6	1.42 (36.1)	0.39 (9.9)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/2	-TTF-AN8-NS8	1.42 (36.1)	0.39 (9.9)	1.06 (27.0)	1.23 (31.2)
5/8	16	1/2	-TTF-AN10-NS8	1.64 (41.7)	0.48 (12.3)	1.06 (27.0)	1.23 (31.2)
3/4	18	1/2	-TTF-AN12-NS8	1.66 (42.1)	0.61 (15.5)	1.25 (31.8)	1.23 (31.2)
3/4	18	3/4	-TTF-AN12-NS12	1.89 (48.0)	0.61 (15.5)	1.37 (34.9)	1.36 (34.5)
7/8	22	3/4	-TTF-AN14-NS12	1.86 (47.2)	0.72 (18.3)	1.37 (34.9)	1.42 (36.1)
1	25	1	-TTF-AN16-NS16	2.17 (55.1)	0.85 (21.5)	1.69 (42.9)	1.62 (41.1)
1 1/4	32	1 1/4	-TTF-AN20-NS20	2.33 (59.2)	1.08 (27.5)	2.00 (50.8)	1.70 (43.2)
1 1/2	38	1 1/2	-TTF-AN24-NS24	2.89 (73.4)	1.30 (33.0)	2.50 (63.5)	2.08 (52.8)
2	50	2	-TTF-AN32-NS32	3.30 (83.8)	1.77 (45.0)	2.50 (63.5)	2.39 (60.7)

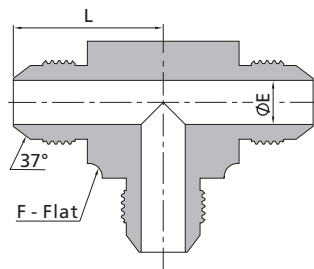
Fittings  
Valves and Filters  
Manifolds  
Tubing, Pipes, Hoses and Connectors  
Quick-connects, Vessels and Sample Cylinders  
Tubing Tools, Other Elements

Female Run Tees



SAE 070426							
Tube O.D.		P-NPT Size	Basic Ordering Number	Dimension, in. (mm)			
in.	mm			L	E	F	Lx
1/8	3	1/8	-TFT-AN2-NS2	1.00 (25.4)	0.06 (1.6)	0.56 (14.3)	0.66 (16.8)
3/16	4	1/8	-TFT-AN3-NS2	1.03 (26.2)	0.13 (3.2)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/8	-TFT-AN4-NS2	1.08 (27.4)	0.17 (4.4)	0.56 (14.3)	0.66 (16.8)
1/4	6	1/4	-TFT-AN4-NS4	1.22 (30.9)	0.17 (4.4)	0.81 (20.6)	0.88 (22.4)
5/16	8	1/8	-TFT-AN5-NS2	1.08 (27.4)	0.24 (6.0)	0.56 (14.3)	0.66 (16.8)
5/16	8	1/4	-TFT-AN5-NS4	1.22 (30.9)	0.24 (6.0)	0.81 (20.6)	0.88 (22.4)
3/8	10	1/8	-TFT-AN6-NS2	1.06 (26.9)	0.30 (7.5)	0.63 (15.9)	0.66 (16.8)
3/8	10	1/4	-TFT-AN6-NS4	1.23 (31.2)	0.30 (7.5)	0.81 (20.6)	0.88 (22.4)
3/8	10	3/8	-TFT-AN6-NS6	1.31 (33.2)	0.30 (7.5)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/4	-TFT-AN8-NS4	1.24 (31.6)	0.39 (9.9)	0.81 (20.6)	0.88 (22.4)
1/2	12	3/8	-TFT-AN8-NS6	1.42 (36.1)	0.39 (9.9)	0.94 (23.8)	1.02 (25.9)
1/2	12	1/2	-TFT-AN8-NS8	1.42 (36.1)	0.39 (9.9)	1.06 (27.0)	1.23 (31.2)
5/8	16	1/2	-TFT-AN10-NS8	1.64 (41.7)	0.48 (12.3)	1.06 (27.0)	1.23 (31.2)
3/4	18	1/2	-TFT-AN12-NS8	1.66 (42.1)	0.61 (15.5)	1.25 (31.8)	1.23 (31.2)
3/4	18	3/4	-TFT-AN12-NS12	1.89 (48.0)	0.61 (15.5)	1.37 (34.9)	1.36 (34.5)
7/8	22	3/4	-TFT-AN14-NS12	1.86 (47.2)	0.72 (18.3)	1.37 (34.9)	1.42 (36.1)
1	25	1	-TFT-AN16-NS16	2.17 (55.1)	0.85 (21.5)	1.69 (42.9)	1.62 (41.1)
1 1/4	32	1 1/4	-TFT-AN20-NS20	2.33 (59.2)	1.08 (27.5)	2.00 (50.8)	1.70 (43.2)
1 1/2	38	1 1/2	-TFT-AN24-NS24	2.89 (73.4)	1.30 (33.0)	2.50 (63.5)	2.08 (52.8)
2	50	2	-TFT-AN32-NS32	3.30 (83.8)	1.77 (45.0)	2.50 (63.5)	2.39 (60.7)

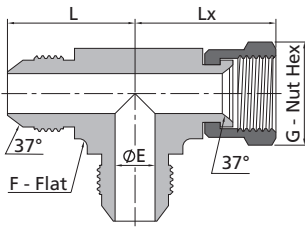
Union Tees



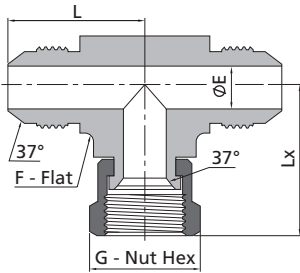
SAE 070401					
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)		
in.	mm		L	E	F
1/8	3	-TTT-AN2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)
3/16	4	-TTT-AN3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)
1/4	6	-TTT-AN4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)
5/16	8	-TTT-AN5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)
3/8	10	-TTT-AN6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)
1/2	12	-TTT-AN8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)
5/8	16	-TTT-AN10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)
3/4	18	-TTT-AN12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)
7/8	22	-TTT-AN14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)
1	25	-TTT-AN16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)
1 1/4	32	-TTT-AN20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)
1 1/2	38	-TTT-AN24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)
2	50	-TTT-AN32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)

Fittings  
Valves and Filters  
Manifolds  
Tubing, Pipes, Hoses and Connectors  
Quick-connects, Vessels and Sample Cylinders  
Tubing Tools, Other Elements

Union Tees

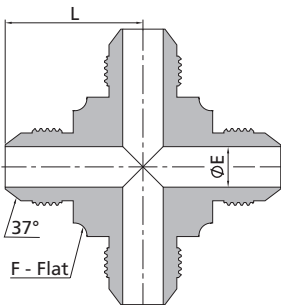


SAE 070432								
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)					
in.	mm		L	E	F	Lx	G	
1/8	3	-TTT-AN2-AS2-AN2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.97 (24.6)	0.44 (11.1)	
3/16	4	-TTT-AN3-AS3-AN3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	1.00 (25.4)	0.50 (12.7)	
1/4	6	-TTT-AN4-AS4-AN4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	1.00 (25.4)	0.56 (14.3)	
5/16	8	-TTT-AN5-AS5-AN5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	1.06 (26.9)	0.63 (15.9)	
3/8	10	-TTT-AN6-AS6-AN6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)	1.25 (31.8)	0.69 (17.5)	
1/2	12	-TTT-AN8-AS8-AN8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.38 (35.1)	0.87 (22.2)	
5/8	16	-TTT-AN10-AS10-AN10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.62 (41.1)	1.00 (25.4)	
3/4	18	-TTT-AN12-AS12-AN12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.75 (44.4)	1.25 (31.8)	
7/8	22	-TTT-AN14-AS14-AN14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.78 (45.2)	1.37 (34.9)	
1	25	-TTT-AN16-AS16-AN16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	2.00 (50.8)	1.50 (38.1)	
1 1/4	32	-TTT-AN20-AS20-AN20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.31 (58.7)	2.00 (50.8)	
1 1/2	38	-TTT-AN24-AS24-AN24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.59 (65.8)	2.37 (60.3)	
2	50	-TTT-AN32-AS32-AN32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.38 (85.9)	2.87 (73.0)	



SAE 070433								
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)					
in.	mm		L	E	F	Lx	G	
1/8	3	-TTT-AN2-AN2-AS2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	0.97 (24.6)	0.44 (11.1)	
3/16	4	-TTT-AN3-AN3-AS3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	1.00 (25.4)	0.50 (12.7)	
1/4	6	-TTT-AN4-AN4-AS4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	1.00 (25.4)	0.56 (14.3)	
5/16	8	-TTT-AN5-AN5-AS5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	1.06 (26.9)	0.63 (15.9)	
3/8	10	-TTT-AN6-AN6-AS6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)	1.25 (31.8)	0.69 (17.5)	
1/2	12	-TTT-AN8-AN8-AS8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	1.38 (35.1)	0.87 (22.2)	
5/8	16	-TTT-AN10-AN10-AS10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	1.62 (41.1)	1.00 (25.4)	
3/4	18	-TTT-AN12-AN12-AS12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	1.75 (44.4)	1.25 (31.8)	
7/8	22	-TTT-AN14-AN14-AS14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	1.78 (45.2)	1.37 (34.9)	
1	25	-TTT-AN16-AN16-AS16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	2.00 (50.8)	1.50 (38.1)	
1 1/4	32	-TTT-AN20-AN20-AS20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	2.31 (58.7)	2.00 (50.8)	
1 1/2	38	-TTT-AN24-AN24-AS24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	2.59 (65.8)	2.37 (60.3)	
2	50	-TTT-AN32-AN32-AS32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	3.38 (85.9)	2.87 (73.0)	

Union Crosses



SAE 070501						
Tube O.D.		Basic Ordering Number	Dimension, in. (mm)			
in.	mm		L	E	F	
1/8	3	-C-AN2	0.77 (19.6)	0.06 (1.6)	0.44 (11.1)	
3/16	4	-C-AN3	0.83 (21.1)	0.13 (3.2)	0.44 (11.1)	
1/4	6	-C-AN4	0.89 (22.6)	0.17 (4.4)	0.50 (12.7)	
5/16	8	-C-AN5	0.95 (24.1)	0.24 (6.0)	0.56 (14.3)	
3/8	10	-C-AN6	1.06 (26.9)	0.30 (7.5)	0.56 (14.3)	
1/2	12	-C-AN8	1.25 (31.8)	0.39 (9.9)	0.81 (20.6)	
5/8	16	-C-AN10	1.45 (36.8)	0.48 (12.3)	0.81 (20.6)	
3/4	18	-C-AN12	1.66 (42.2)	0.61 (15.5)	1.06 (27.0)	
7/8	22	-C-AN14	1.80 (45.7)	0.72 (18.3)	1.25 (31.8)	
1	25	-C-AN16	1.81 (46.0)	0.85 (21.5)	1.37 (34.9)	
1 1/4	32	-C-AN20	2.06 (52.3)	1.08 (27.5)	1.69 (42.9)	
1 1/2	38	-C-AN24	2.33 (59.2)	1.30 (33.0)	2.00 (50.8)	
2	50	-C-AN32	3.06 (77.7)	1.77 (45.0)	2.50 (63.5)	

Fittings

Valves and Filters

Manifolds

Tubing, Pipes, Hoses and Connectors

Quick-connects, Vessels and Sample Cylinders

Tubing Tools, Other Elements