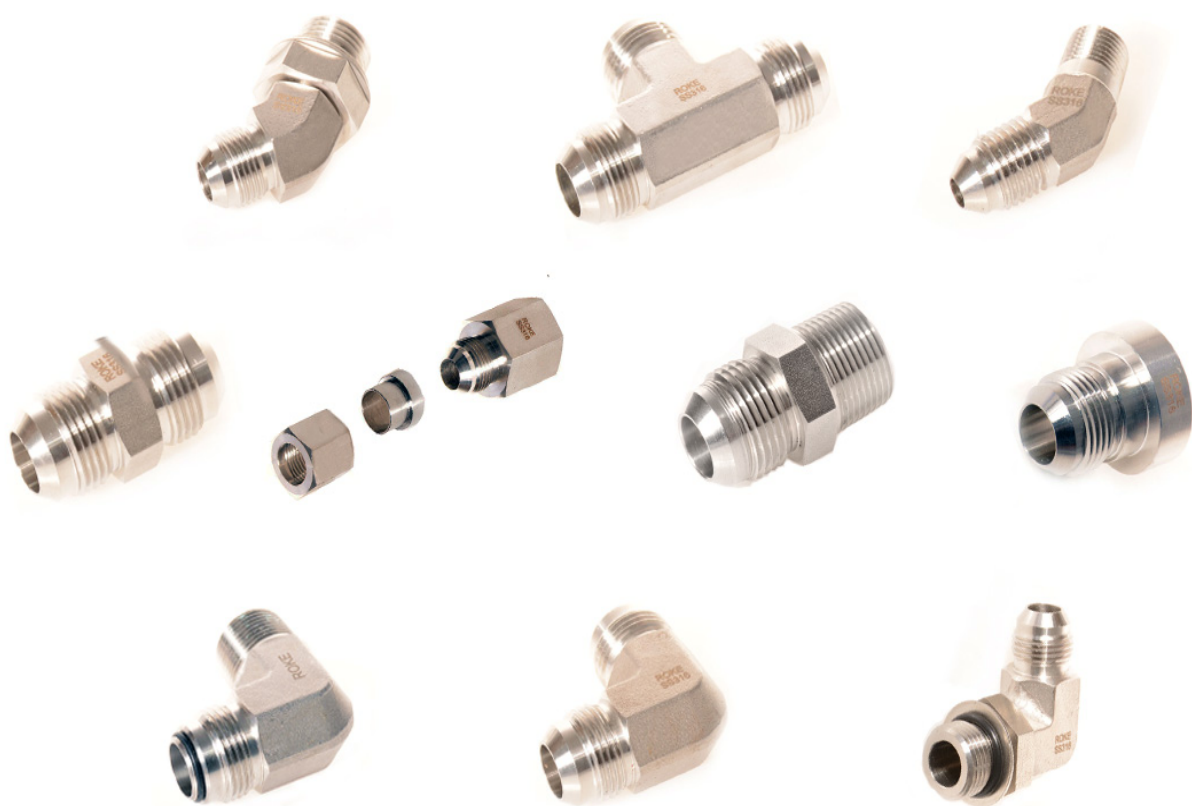



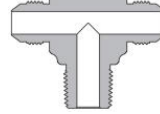

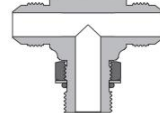

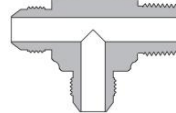
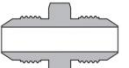
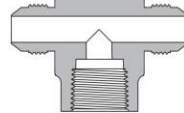

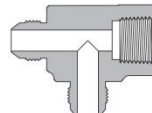

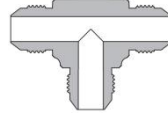

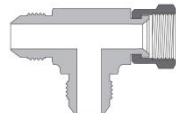

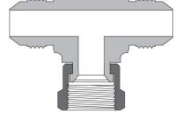

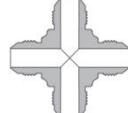




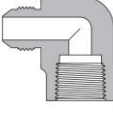
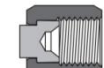

37° Flared Tube Fittings



ROKE
Valves and Fittings

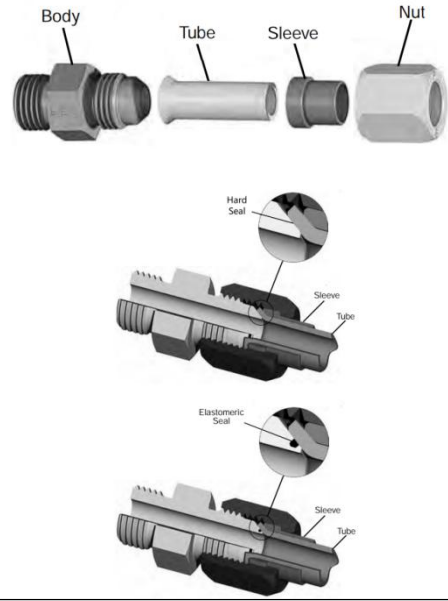
www.chinaroke.com

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How the Flared Fittings Work

- ⦿ Tightening of the nut clamps the tube flare between the body nose (seat) producing a leak tight connection. This clamping on the 37° taper provides a measure of elasticity to the joint helping it to resist loosening under vibration. The clamping force results in a small radial load that tends to deform the fitting nose radially. The resistance of the nose to elastic deformation provides a constant preload (similar to a lockwasher) keeping it tight.
- ⦿ The clamping force provided by the nut resists the opposing force of the fluid under pressure. The joint remains leak tight as long as the clamping force is higher than the opposing pressure load.
- ⦿ Properly assembled the flared fittings with appropriate tube will seal consistently under pressure until tube bursts.
- ⦿ Sealing in flared fittings takes place between two smooth metal surfaces, the fitting nose and inside of the tube flare.
- ⦿ Therefore, the sealing surfaces have to be smooth, free of any nicks, scratches, spiral tool marks, splits or weld beads.
- ⦿ Certain types of harder tubes that are not fully annealed may not be suitable for flaring due to the potential for immediate or long-term cracking of the tube flare. For specific tube type and wall thickness recommendations.



Materials

| Designator | Material | Bar Stock | Forged |
|------------|---------------------|---------------|-----------|
| SS | Stainless Steel 316 | ASTM A276 | ASTM A182 |
| S4 | Stainless Steel 304 | ASTM A276 | ASTM A182 |
| CS | Carbon Steel | ASTM A108 | ASTM A105 |
| B | Brass | ASTM B16/B453 | ASTM B283 |
| AL | Aluminum | ASTM B211 | ASTM B247 |

Working Pressure

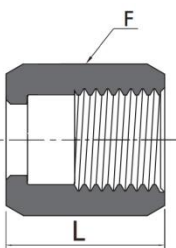
| SAE Dash Size | Tube O.D. | | Flare Fittings Thread | Working Pressure (PSIG/bar) |
|---------------|-----------|----------|-----------------------|-----------------------------|
| | Inch. | mm | | |
| 2 | 1/8 | - | 5/16-24 | 5000 / 345 |
| 3 | 3/16 | - | 3/8-24 | 5000 / 345 |
| 4 | 1/4 | 6 | 7/16-20 | 5000 / 345 |
| 5 | 5/16 | 8 | 1/2-20 | 5000 / 345 |
| 6 | 3/8 | 10 | 9/16-18 | 5000 / 345 |
| 8 | 1/2 | 12 | 3/4-16 | 4500 / 310 |
| 10 | 5/8 | 14/15/16 | 7/8-14 | 3500 / 241 |
| 12 | 3/4 | 18/20 | 1 1/6-12 | 3500 / 241 |
| 14 | 7/8 | 22 | 1 3/16-12 | 3000 / 207 |
| 16 | 1 | 25 | 1 5/16-12 | 3000 / 207 |
| 20 | 1 1/4 | 20/30/32 | 1 5/8-12 | 2500 / 172 |
| 24 | 1 1/2 | 35/38 | 1 7/8-12 | 2000 / 138 |
| 32 | 2 | - | 2 1/2-12 | 1500 / 103 |

Part NO. Discription

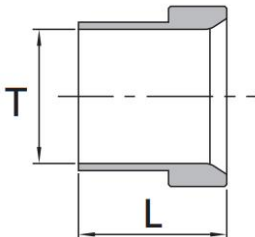
For Example: **SS-JMC-AN 8-MN 8**

| Material | Series | AN: Male Flared AS: Female Flared | Flared Size | Thread Type : | Thread Size |
|------------------|--------|--------------------------------------|-------------|-----------------|-------------|
| SS: SS 316 | | | 2: 1/8" | FN: Female Npt | 2: 1/8" |
| S9: SS 904L | | | 4: 1/4" | MN: Male Npt | 4: 1/4" |
| S4: SS 304 | | | 6: 3/8" | FR: Female BSPT | 6: 3/8" |
| M4: Monle 400 | | | 8: 1/2" | MR: Male BSPT | 8: 1/2" |
| B: Brass | | | 12: 3/4" | SAE: UNF | 12: 3/4" |
| CS: Carbon Steel | | | 16: 1" | | 16: 1" |

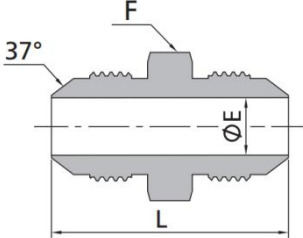
Nuts

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

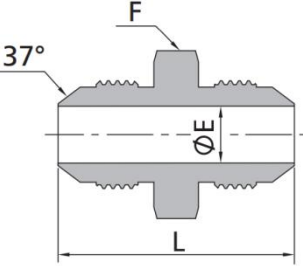
Sleeves

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

Unions

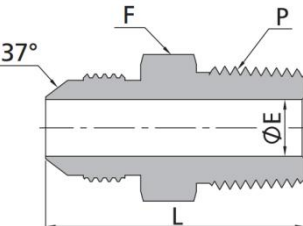
|  | T-Tube O.D. | | Basic Ordering Number | Dimension, in.(mm) | | |
|---|-------------|----|-----------------------|--------------------|-------------|-------------|
| | In | mm | | L | E | F (Hex) |
| | 1/8 | 3 | -JU-AN2 | 1.17 (29.7) | 0.06(1.6) | 0.44 (11.1) |
| | 3/16 | 4 | -JU-AN3 | 1.23 (31.2) | 0.13(3.2) | 0.44 (11.1) |
| | 1/4 | 6 | -JU-AN4 | 1.37 (34.8) | 0.17 (4.4) | 0.50 (12.7) |
| | 5/16 | 8 | -JU-AN5 | 1.37 (34.8) | 0.24 (6.0) | 0.56 (14.3) |
| | 3/8 | 10 | -JU-AN6 | 1.41 (35.8) | 0.30 (7.5) | 0.63 (15.9) |
| | 1/2 | 12 | -JU-AN8 | 1.62 (41.1) | 0.39 (9.9) | 0.81 (20.6) |
| | 5/8 | 16 | -JU-AN10 | 1.88 (47.8) | 0.48 (12.3) | 0.94 (23.8) |
| | 3/4 | 18 | -JU-AN12 | 2.16 (54.9) | 0.61 (15.5) | 1.13 (28.6) |
| | 7/8 | 22 | -JU-AN14 | 2.21 (56.1) | 0.72(18.0) | 1.25 (31.8) |
| | 1 | 25 | -JU-AN16 | 2.25 (57.2) | 0.85 (21.5) | 1.37 (34.9) |
| | 1 1/4 | 32 | -JU-AN20 | 2.43 (61.7) | 1.08 (27.5) | 1.69 (42.9) |
| | 1 1/2 | 38 | -JU-AN24 | 2.75 (69.8) | 1.30 (33.0) | 2.00 (50.8) |
| | 2 | 50 | -JU-AN32 | 3.40 (86.4) | 1.77 (45.0) | 2.63 (66.7) |

Large Hex Unions



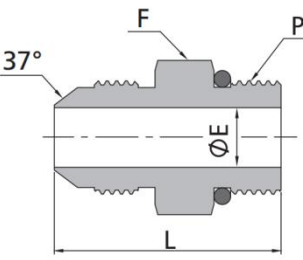
| | Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | |
|--|-----------|----|-----------------------|----------------------|-------------|-------------|
| | in. | mm | | L | E | F (Hex) |
| | 1/8 | 3 | -LHU-AN2 | 1.17 (29.7) | 0.06 (1.6) | 0.56(14.3) |
| | 3/16 | 4 | -LHU-AN3 | 1.23 (31.2)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

Male Connectors-NPT



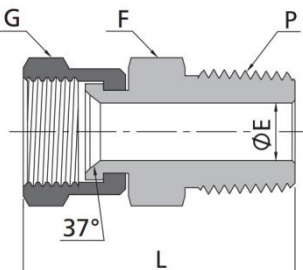
| | T-Tube O.D. | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | |
|--|-------------|----|------------|-----------------------|---------------------|-------------|-------------|
| | In. | mm | | | L | E | F (Hex) |
| | 1/8 | 3 | 1/8 | -JMC-AN2-MN2 | 1.11(28.2) | 0.06(1.6) | 0.44(11.1) |
| | 3/16 | 4 | 1/8 | -JMC-AN3-MN2 | 1.14(29.0) | 0.13(3.2) | 0.44(11.1) |
| | 1/4 | 6 | 1/8 | -JMC-AN4-MN2 | 1.22(31.0) | 0.17 (4.4) | 0.50(12.7) |
| | 1/4 | 6 | 1/4 | -JMC-AN4-MN4 | 1.42(36.0) | 0.17 (4.4) | 0.56(14.3) |
| | 1/4 | 6 | 1/2 | -JMC-AN4-MN8 | 1.68(42.7) | 0.17 (4.4) | 0.87(22.2) |
| | 5/16 | 8 | 1/8 | -JMC-AN5-MN2 | 1.22(31.0) | 0.19 (4.8) | 0.56(14.3) |
| | 5/16 | 8 | 1/4 | -JMC-AN5-MN4 | 1.42(36.1) | 0.24(6.0) | 0.56(14.3) |
| | 3/8 | 10 | 1/8 | -JMC-AN6-MN2 | 1.25(31.8) | 0.19 (4.8) | 0.63 (15.9) |
| | 3/8 | 10 | 1/4 | -JMC-AN6-MN4 | 1.43(36.3) | 0.28(7.1) | 0.63 (15.9) |
| | 3/8 | 10 | 3/8 | -JMC-AN6-MN6 | 1.42(36.1) | 0.3(7.5) | 0.75(19.1) |
| | 3/8 | 10 | 1/2 | JMC-AN6-MN8 | 1.67(42.5) | 0.3(7.5) | 0.87(22.2) |
| | 1/2 | 12 | 1/4 | -JMC-AN8-MN4 | 1.53(38.9) | 0.28(7.1) | 0.81(20.6) |
| | 1/2 | 12 | 3/8 | -JMC-AN8-MN6 | 1.53(38.9) | 0.39(9.9) | 0.81(20.6) |
| | 1/2 | 12 | 1/2 | -JMC-AN8-MN8 | 1.79 (45.5) | 0.39(9.9) | 0.87 (22.2) |
| | 1/2 | 12 | 3/4 | -JMC-AN8-MN2 | 1.85 (47.0) | 0.39(9.9) | 1.13 (28.6) |
| | 5/8 | 16 | 3/8 | -JMC-AN10-MN6 | 1.70 (43.1) | 0.38 (9.6) | 0.94 (23.8) |
| | 5/8 | 16 | 1/2 | -JMC-AN10-MN8 | 1.89 (48.0) | 0.48 (12.3) | 0.94 (23.8) |
| | 5/8 | 16 | 3/4 | -JMC-AN10-MN12 | 1.95 (49.5) | 0.48 (12.3) | 1.13 (28.6) |
| | 3/4 | 18 | 3/4 | -JMC-AN12-MN12 | 2.06 (52.3) | 0.61 (15.5) | 1.13 (28.6) |
| | 3/4 | 18 | 1 | -JMC-AN12-MN16 | 2.25 (57.1) | 0.61 (15.5) | 1.37 (34.9) |
| | 7/8 | 22 | 3/4 | -JMC-AN14-MN12 | 2.09 (53.1) | 0.62 (15.7) | 1.25 (31.8) |
| | 1 | 25 | 3/4 | -JMC-AN16-MN12 | 2.11 (53.5) | 0.62 (15.7) | 1.37 (34.9) |
| | 1 | 25 | 1 | -JMC-AN16-MN16 | 2.30 (58.4) | 0.85 (21.5) | 1.37 (34.9) |
| | 1 1/4 | 32 | 1 | -JMC-AN20-MN16 | 2.42 (61.5) | 0.88 (22.4) | 1.69 (42.9) |
| | 1 1/4 | 32 | 1 1/4 | -JMC-AN20-MN20 | 2.45 (62.2) | 1.08 (27.5) | 1.69 (42.9) |
| | 1 1/2 | 38 | 1 1/4 | -JMC-AN24-MN20 | 2.68 (68.1) | 1.13 (28.6) | 2.00 (50.8) |
| | 1 1/2 | 38 | 1 1/2 | -JMC-AN24-MN24 | 2.68 (68.1) | 1.30 (33.0) | 2.00 (50.8) |
| | 2 | 50 | 2 | -JMC-AN32-MN32 | 3.11 (79.0) | 1.77 (45.0) | 2.63 (66.7) |

Male Connectors-**SAE**



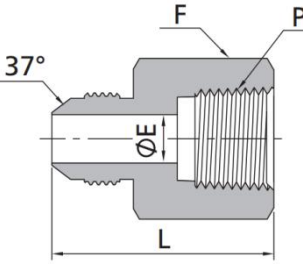
| T-Tube O.D | | P- SAE Thread Size | Basic Ordering Number | Dimension, in. (mm) | | |
|------------|----|---------------------------------|--------------------------|---------------------|------------|-------------|
| In. | mm | | | L | E | F (Hex) |
| 1/8 | 3 | 5/16-24 | -JMC-AN2-ST5 | 1.06(26.9) | 0.06(1.6) | 0.44(11.1) |
| 3/16 | 4 | 3/8-24 | -JMC-AN3-ST6 | 1.10(27.9) | 0.13(3.2) | 0.50(12.7) |
| 1/4 | 6 | 7/16-20 | -JMC-AN4-ST7 | 1.23(31.2) | 0.17 (4.4) | 0.56(14.3) |
| 1/4 | 6 | 1/2-20 | -JMC-AN4-ST8 | 1.23(31.2) | 0.17 (4.4) | 0.63 (15.9) |
| 1/4 | 6 | 9/16-18 | -JMC-AN4-ST9 | 1.30(33.0) | 0.17 (4.4) | 0.69 (17.5) |
| 1/4 | 6 | 3/4-16 | -JMC-AN4-ST12 | 1.37(34.8) | 0.17 (4.4) | 0.87 (22.2) |
| 5/16 | 8 | 1/2-20 | -JMC-AN5-ST8 | 1.23(31.2) | 0.24(6.0) | 0.63 (15.9) |
| 3/8 | 10 | 9/16-18 | -JMC-AN6-ST9 | 1.30(33.0) | 0.30 (7.5) | 0.69 (17.5) |
| 3/8 | 10 | 3/4-16 | -JMC-AN6-ST12 | 1.38(35.1) | 0.30 (7.5) | 0.87 (22.2) |
| 3/8 | 10 | 7/8-14 | -JMC-AN6-ST14 | 1.50(38.1) | 0.30(7.5) | 1.00 (25.4) |
| 1/2 | 12 | 9/16-18 | -JMC-AN8-ST9 | 1.44(36.6) | 0.30(7.5) | 0.81 (20.6) |
| 1/2 | 12 | 3/4-16 | -JMC-AN8-ST12 | 1.48(37.6) | 0.39(9.9) | 0.87 (22.2) |
| 1/2 | 12 | 7/8-14 | -JMC-AN8-ST14 | 1.60(40.6) | 0.39(9.9) | 1.00 (25.4) |
| 1/2 | 12 | 1 1/16-12 | -JMC-AN8-ST17 | 1.76(44.7) | 0.39(9.9) | 1.25 (31.8) |
| 5/8 | 16 | 3/4-16 | -JMC-AN10-ST12 | 1.60(40.6) | 0.42(10.7) | 0.94 (23.8) |
| 5/8 | 16 | 7/8-14 | -JMC-AN10-ST14 | 1.70(43.1) | 0.48(12.3) | 1.00 (25.4) |
| 5/8 | 16 | 1 1/16-12 | -JMC-AN10-ST17 | 1.86(47.2) | 0.48(12.3) | 1.25 (31.8) |
| 3/4 | 18 | 3/4-16 | -JMC-AN12-ST12 | 1.78(45.2) | 0.42(10.7) | 1.13 (28.6) |
| 3/4 | 18 | 7/8-14 | -JMC-AN12-ST14 | 1.83(46.4) | 0.50(12.7) | 1.13 (28.6) |
| 3/4 | 18 | 1 1/16-12 | -JMC-AN12-ST17 | 1.97(50.0) | 0.61(15.5) | 1.25 (31.8) |
| 3/4 | 18 | 1 5/16-12 | -JMC-AN12-ST21 | 2.00(50.8) | 0.61(15.5) | 1.50(38.1) |
| 7/8 | 22 | 1 3/16-12 | -JMC-AN14-ST19 | 1.99(50.5) | 0.72(18.3) | 1.37 (34.9) |
| 7/8 | 22 | 1 5/16-12 | -JMC-AN14-ST21 | 2.02(51.3) | 0.72(18.3) | 1.50(38.1) |
| 1 | 25 | 1 1/16-12 | -JMC-AN16-ST17 | 2.01(51.1) | 0.66(16.7) | 1.37 (34.9) |
| 1 | 25 | 1 3/16-12 | -JMC-AN16-ST19 | 2.04(51.8) | 0.72(18.3) | 1.37 (34.9) |
| 1 | 25 | 1 5/16-12 | -JMC-AN16-ST21 | 2.04(51.8) | 0.85(21.5) | 1.50(38.1) |

Swivel Connectors-**NPT**

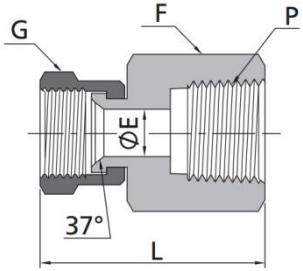


| T-Tube O.D | | P- NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|------------|----|-----------------------|--------------------------|---------------------|-------------|-------------|------------|
| In. | mm | | | L | E | G | F (Hex) |
| 1/8 | 3 | 1/8 | -JMC-AS2-MN2 | 1.18(30.0) | 0.06(1.6) | 0.44(11.1) | 0.44(11.1) |
| 3/16 | 4 | 1/8 | -JMC-AS3-MN2 | 1.26(32.0) | 0.13 (3.2) | 0.50 (12.7) | 0.44(11.1) |
| 1/4 | 6 | 1/8 | -JMCAS4-MN2 | 1.35(34.2) | 0.17 (4.4) | 0.56(14.3) | 0.50(12.7) |
| 5/16 | 8 | 1/8 | -JMC-AS5-MN2 | 1.38(35.0) | 0.24 (6.0) | 0.63(15.9) | 0.56(14.3) |
| 3/8 | 10 | 1/4 | -JMC-AS6-MN4 | 1.58(40.2) | 0.30 (7.5) | 0.69(17.5) | 0.63(15.9) |
| 1/2 | 12 | 3/8 | -JMC-AS8-MN6 | 1.68(42.7) | 0.39 (9.9) | 0.87(22.2) | 0.81(20.6) |
| 5/8 | 16 | 1/2 | -JMC-AS10-MN8 | 2.02(51.3) | 0.48(12.3) | 1.00(25.4) | 0.94(23.8) |
| 3/4 | 18 | 3/4 | -JMC-AS12-MN12 | 2.15(54.5) | 0.61(15.5) | 1.25(31.8) | 1.13(28.6) |
| 7/8 | 22 | 3/4 | -JMC-AS14-MN12 | 2.20(56.0) | 0.71 (18.0) | 1.37 (34.9) | 1.25(31.8) |
| 1 | 25 | 1 | -JMC-AS16-MN16 | 2.51(63.7) | 0.85(21.5) | 1.50 (38.1) | 1.37(34.9) |
| 1 1/4 | 32 | 1 1/4 | -JMC-AS20-MN20 | 2.71(68.9) | 1.08 (27.5) | 2.00 (50.8) | 1.69(42.9) |
| 1 1/2 | 38 | 1 1/2 | -JMC-AS24-MN24 | 3.06(77.6) | 1.30 (33.0) | 2.25 (57.2) | 2.00(50.8) |
| 2 | 50 | 2 | -JMC-AS32-MN32 | 3.66(92.9) | 1.77 (45.0) | 2.87 (73.0) | 2.63(66.7) |

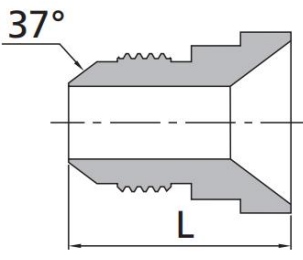
Female Connectors-NPT

|  | T-Tube O.D | | P-NPT | Basic Ordering | Dimension, in. (mm) | | |
|---|------------|----|-------|----------------|---------------------|-------------|-------------|
| | In. | mm | Size | Number | L | E | F (Hex) |
| | 1/8 | 3 | 1/8 | -JFC-AN2-FN2 | 1.12(28.4) | 0.06(1.6) | 0.56(14.3) |
| | 3/16 | 4 | 1/8 | -JFC-AN3-FN2 | 1.13 (28.7) | 0.13(3.2) | 0.56(14.3) |
| | 1/4 | 6 | 1/8 | -JFC-AN4-FN2 | 1.13 (28.7) | 0.17 (4.4) | 0.56(14.3) |
| | 1/4 | 6 | 1/4 | -JFC-AN4-FN4 | 1.39 (35.3) | 0.17 (4.4) | 0.75 (19.1) |
| | 5/16 | 8 | 1/8 | -JFC-AN5-FN2 | 1.17 (29.7) | 0.24 (6.0) | 0.56(14.3) |
| | 5/16 | 8 | 1/4 | -JFC-AN5-FN4 | 1.39 (35.3) | 0.24 (6.0) | 0.75 (19.1) |
| | 3/8 | 10 | 1/4 | -JFC-AN6-FN4 | 1.40 (35.6) | 0.30 (7.5) | 0.75 (19.1) |
| | 3/8 | 10 | 3/8 | -JFC-AN6-FN6 | 1.46 (37.1) | 0.30 (7.5) | 0.87 (22.2) |
| | 1/2 | 12 | 3/8 | -JFC-AN8-FN6 | 1.56 (39.6) | 0.39 (9.9) | 0.87 (22.2) |
| | 1/2 | 12 | 1/2 | -JFC-AN8-FN8 | 1.80 (45.6) | 0.39 (9.9) | 1.13 (28.6) |
| | 5/8 | 16 | 1/2 | -CJFC-AN10-FN8 | 1.89 (48.0) | 0.48(12.3) | 1.13 (28.6) |
| | 3/4 | 18 | 1/2 | -JFC-AN12-FN8 | 2.05 (52.1) | 0.61(15.5) | 1.13 (28.6) |
| | 3/4 | 18 | 3/4 | -JFC-AN12-FN12 | 2.06 (52.3) | 0.61(15.5) | 1.37 (34.9) |
| | 7/8 | 22 | 3/4 | -JFC-AN14-FN12 | 2.06 (52.3) | 0.72(18.3) | 1.37 (34.9) |
| | 1 | 25 | 1 | -JFC-AN16-FN16 | 2.35 (59.7) | 0.85 (21.5) | 1.63 (41.3) |
| | 1 1/4 | 32 | 1 1/4 | -JFC-AN20-FN20 | 2.49 (63.2) | 1.08 (27.5) | 2.00 (50.8) |
| | 1 1/2 | 38 | 1 1/2 | -JFC-AN24-FN24 | 2.62 (66.5) | 1.30 (33.0) | 2.37 (60.3) |
| | 2 | 50 | 2 | -JFC-AN32-FN32 | 2.97 (75.4) | 1.77 (45.0) | 2.87 (73.0) |

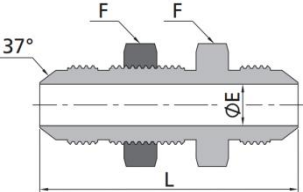
Swivel Female Connectors-NPT

|  | T-Tube O.D | | P-NPT | Basic Ordering | Dimension, in. (mm) | | | |
|---|------------|----|-------|----------------|---------------------|-------------|------------|-------------|
| | In. | mm | Size | Number | L | E | G | F (Hex) |
| | 1/8 | 3 | 1/8 | -JFC-AS2-FN2 | 1.42 (36.1) | 0.06(1.6) | 0.44(11.1) | 0.56(14.3) |
| | 3/16 | 4 | 1/8 | -JFC-AS3-FN2 | 1.47 (37.3) | 0.13(3.2) | 0.50(12.7) | 0.56(14.3) |
| | 1/4 | 6 | 1/8 | -JFC-AS4-FN2 | 1.56 (39.7) | 0.17 (4.4) | 0.56(14.3) | 0.56(14.3) |
| | 5/16 | 8 | 1/8 | -JFC-AS5-FN4 | 1.59 (40.5) | 0.24 (6.0) | 0.63(15.9) | 0.56(14.3) |
| | 3/8 | 10 | 1/4 | -JFC-AS6-FN4 | 1.80 (45.8) | 0.30 (7.5) | 0.69(17.5) | 0.75 (19.1) |
| | 1/2 | 12 | 3/8 | -JFC-AS8-FN8 | 1.85 (47.0) | 0.39 (9.9) | 0.87(22.2) | 0.87 (22.2) |
| | 5/8 | 16 | 1/2 | -CJFC-AS10-FN8 | 2.03 (51.6) | 0.48 (12.3) | 1.00(25.4) | 1.13 (28.6) |
| | 3/4 | 18 | 3/4 | -JFC-AS12-FN12 | 2.62 (66.6) | 0.61 (15.5) | 1.25(31.8) | 1.37 (34.9) |
| | 7/8 | 22 | 3/4 | -JFC-AS14-FN12 | 2.67 (67.8) | 0.71(18.0) | 1.37(34.9) | 1.37 (34.9) |
| | 1 | 25 | 1 | -JFC-AS16-FN16 | 2.89 (73.5) | 0.85 (21.5) | 1.50(38.1) | 1.63 (41.3) |
| | 1 1/4 | 32 | 1 1/4 | -JFC-AS20-FN20 | 3.07 (78.1) | 1.08 (27.5) | 2.00(50.8) | 2.00 (50.8) |
| | 1 1/2 | 38 | 1 1/2 | -JFC-AS24-FN24 | 3.41 (86.7) | 1.30 (33.0) | 2.37(60.3) | 2.37 (60.3) |
| | 2 | 50 | 2 | -JFC-AS32-FN32 | 3.52 (89.3) | 1.77 (45.0) | 2.87(73.0) | 2.87 (73.0) |

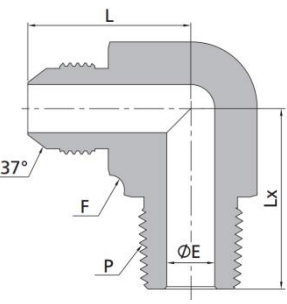
Reducing Adapters

| | 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) | |

Bulkhead Unions

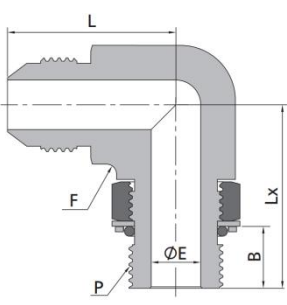
| | Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | |
|---|-----------|----|-----------------------|----------------------|-------------|-------------|
| | in. | mm | | L | E | F (Hex) |
|  | 3/16 | 4 | -JBU-AN3 | 1.90 (48.3) | 0.13 (3.2) | 0.63 (15.9) |
| | 1/4 | 6 | -JBU-AN4 | 2.07 (52.6)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

Male Elbows-NPT



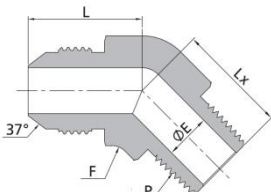
| T-Tube O.D | | P-NPT | Basic Ordering | Dimension, in. (mm) | | | | |
|------------|----|-------|----------------|---------------------|-------------|-------------|-------------|-------------|
| In. | mm | | | Size | Number | L | E | F (Flat) |
| 1/8 | 3 | 1/8 | -JME-AN2-MN2 | | 0.77 (19.6) | 0.06(1.6) | 0.44(11.1) | 0.72 (18.3) |
| 3/16 | 4 | 1/8 | -JME-AN3-MN2 | | 0.83 (21.1) | 0.13(3.2) | 0.44(11.1) | 0.72(18.3) |
| 1/4 | 6 | 1/8 | -JME-AN4-MN2 | | 0.89 (22.6) | 0.17(4.4) | 0.50(12.7) | 0.78 (19.8) |
| 1/4 | 6 | 1/4 | -JME-AN4-MN4 | | 1.06 (26.9) | 0.17(4.4) | 0.56(14.3) | 1.09 (27.7) |
| 5/16 | 8 | 1/8 | -JME-AN5-MN2 | | 0.95 (24.1) | 0.19(4.8) | 0.56(14.3) | 0.78 (19.8) |
| 5/16 | 8 | 1/4 | -JME-AN5-MN4 | | 1.06 (26.9) | 0.24(6.0) | 0.56(14.3) | 1.09 (27.7) |
| 3/8 | 10 | 1/8 | -JME-AN6-MN2 | | 1.06 (26.9) | 0.19(4.8) | 0.56(14.3) | 0.90 (22.8) |
| 3/8 | 10 | 1/4 | -JME-AN6-MN4 | | 1.06 (26.9) | 0.28(7.1) | 0.56(14.3) | 1.09 (27.7) |
| 3/8 | 10 | 3/8 | -JME-AN6-MN6 | | 1.14 (29.0) | 0.30(7.5) | 0.69(17.5) | 1.22 (31.0) |
| 3/8 | 10 | 1/2 | -JME-AN6-MN8 | | 1.23 (31.2) | 0.30(7.5) | 0.81(20.6) | 1.47 (37.3) |
| 1/2 | 12 | 1/4 | -JME-AN8-MN4 | | 1.25 (31.8) | 0.28(7.1) | 0.81(20.6) | 1.22 (31.0) |
| 1/2 | 12 | 3/8 | -JME-AN8-MN6 | | 1.25 (31.8) | 0.39(9.9) | 0.81(20.6) | 1.22 (31.0) |
| 1/2 | 12 | 1/2 | -JME-AN8-MN8 | | 1.33 (33.7) | 0.39(9.9) | 0.81(20.6) | 1.47 (37.3) |
| 1/2 | 12 | 3/4 | -JME-AN8-MN12 | | 1.42 (36.0) | 0.35(9.0) | 1.00(25.4) | 1.59(40.4) |
| 5/8 | 16 | 3/8 | -JME-AN10-MN6 | | 1.45 (36.8) | 0.39(9.9) | 0.81(20.6) | 1.30 (33.0) |
| 5/8 | 16 | 1/2 | -JME-AN10-MN8 | | 1.45 (36.8) | 0.48(12.3) | 0.81(20.6) | 1.47 (37.3) |
| 5/8 | 16 | 3/4 | -JME-AN10-MN12 | | 1.53 (38.9) | 0.48(12.3) | 1.00(25.4) | 1.59(40.4) |
| 3/4 | 18 | 3/4 | -JME-AN12-MN12 | | 1.66 (42.2) | 0.61(15.5) | 1.06(27.0) | 1.59(40.4) |
| 3/4 | 18 | 1 | -JME-AN12-MN16 | | 1.66 (42.2) | 0.61(15.5) | 1.25(31.8) | 1.98(50.4) |
| 7/8 | 22 | 3/4 | -JME-AN14-MN12 | | 1.80 (45.7) | 0.72(18.3) | 1.25(31.8) | 1.69(42.9) |
| 1 | 25 | 3/4 | -JME-AN16-MN12 | | 1.81 (46.0) | 0.72(18.3) | 1.37(34.9) | 1.78(45.2) |
| 1 | 25 | 1 | -JME-AN16-MN16 | | 1.81 (46.0) | 0.85(21.5) | 1.37 (34.9) | 1.97 (50.0) |
| 1 1/4 | 32 | 1 | -JME-AN20-NM16 | | 2.06 (52.3) | 0.94(23.8) | 1.69(42.9) | 2.35 (59.6) |
| 1 1/4 | 32 | 1 1/4 | -JME-AN20-MN20 | | 2.06 (52.3) | 1.08(27.5) | 1.69(42.9) | 2.38 (60.5) |
| 1 1/2 | 38 | 1 1/2 | -JME-AN24-MN24 | | 2.33 (59.2) | 1.30(33.0) | 2.00(50.8) | 2.64 (67.1) |
| 2 | 50 | 2 | -JME-AN32-MN32 | | 3.06 (77.7) | 1.77 (45.0) | 2.50(63.5) | 3.00 (76.2) |

Adjustable Male Elbows-SAE

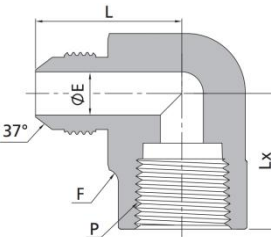


| T-Tube O.D | | P-SAE | Basic Ordering | Thread Size | Dimension, in. (mm) | | | | |
|------------|----|-----------|----------------|-------------|---------------------|------------|------------|------------|-------------|
| In. | mm | | | | L | E | F (Flat) | Lx | B |
| 1/8 | 3 | 5/16-24 | -AME-AN2-ST5 | | 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 | -AME-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 | -AME-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 | -AME-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 | -AME-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 | -AME-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 | -AME-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 | -AME-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 | -AME-AN14ST19 | | 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 | -AME-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 | -AME-AN20ST26 | | 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 | -AME-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 | -AME-AN32-ST40 | | 3.06(77.7) | 1.77(45.0) | 2.50(63.5) | 2.89(73.4) | 0.65 (16.5) |

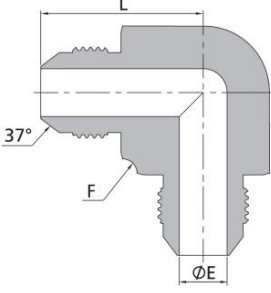
45° Male Elbows-NPT

|  | T-Tube O.D | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|---|------------|----|---------------|--------------------------|---------------------|-------------|-------------|-------------|
| | In. | mm | | | L | E | F (Flat) | Lx |
| | 1/8 | 3 | 1/8 | -JMV-AN2-MN2 | 0.69 (17.5) | 0.06 (1.6) | 0.44 (11.1) | 0.52 (13.2) |
| | 3/16 | 4 | 1/8 | -JMV-AN3-MN2 | 0.69 (17.5) | 0.13 (3.2) | 0.44 (11.1) | 0.52 (13.2) |
| | 1/4 | 6 | 1/8 | -JMV-AN4-MN2 | 0.72 (18.3) | 0.17 (4.4) | 0.50 (12.7) | 0.64 (16.3) |
| | 5/16 | 8 | 1/8 | -JMV-AN5-MN2 | 0.77 (19.6) | 0.19 (4.8) | 0.56 (14.3) | 0.64 (16.3) |
| | 3/8 | 10 | 1/4 | -JMV-AN6-MN4 | 0.83 (21.1) | 0.28 (7.1) | 0.56 (14.3) | 0.86 (21.8) |
| | 1/2 | 12 | 3/8 | -JMV-AN8-MN6 | 0.98 (24.9) | 0.39 (9.9) | 0.69 (17.5) | 0.95 (24.1) |
| | 5/8 | 16 | 1/2 | -JMV-AN10-MN8 | 1.11 (28.2) | 0.48 (12.3) | 0.81 (20.6) | 1.17 (29.7) |
| | 3/4 | 18 | 3/4 | -JMV-AN12-MN12 | 1.28 (32.5) | 0.61 (15.5) | 1.06 (27.0) | 1.20 (30.5) |
| | 7/8 | 22 | 3/4 | -JMV-AN14-MN12 | 1.45 (36.8) | 0.72 (18.3) | 1.25 (31.8) | 1.30 (33.0) |
| | 1 | 25 | 1 | -JMV-AN16-MN16 | 1.47 (37.3) | 0.85 (21.5) | 1.37 (34.9) | 1.48 (37.6) |
| | 1 1/4 | 32 | 1 1/4 | -JMV-AN20-MN20 | 1.59 (40.4) | 1.08 (27.5) | 1.69 (42.9) | 1.67 (42.4) |
| | 1 1/2 | 38 | 1 1/2 | -JMV-AN24-MN24 | 1.78 (45.2) | 1.30(33.0) | 2.00 (50.8) | 1.77 (45.0) |
| | 2 | 50 | 2 | -JMV-AN32-MN32 | 2.22 (56.4) | 1.77 (45.0) | 2.50 (63.5) | 2.11 (53.6) |

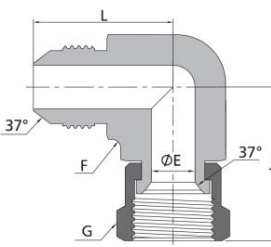
Female Elbows-NPT

|  | T-Tube O.D | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|---|------------|----|---------------|--------------------------|---------------------|------------|-------------|-------------|
| | In. | mm | | | L | E | F (Flat) | Lx |
| | 1/8 | 3 | 1/8 | -JFE-AN2-FN2 | 1.00(25.4) | 0.06 (1.6) | 0.56 (14.3) | 0.66(16.8) |
| | 3/16 | 4 | 1/8 | -JFE-AN3-FN2 | 1.03(26.2) | 0.13(3.2) | 0.56 (14.3) | 0.66(16.8) |
| | 1/4 | 6 | 1/8 | -JFE-AN4-FN2 | 1.08 (27.4) | 0.17 (4.4) | 0.56 (14.3) | 0.66(16.8) |
| | 1/4 | 6 | 1/4 | -JFE-AN4-FN4 | 1.22 (30.9) | 0.17 (4.4) | 0.81 (20.6) | 0.88(22.4) |
| | 5/16 | 8 | 1/8 | -JFE-AN5-FN2 | 1.08 (27.4) | 0.24 (6.0) | 0.56 (14.3) | 0.66(16.8) |
| | 5/16 | 8 | 1/4 | -JFE-AN5-FN4 | 1.22 (30.9) | 0.24 (6.0) | 0.81 (20.6) | 0.88(22.4) |
| | 3/8 | 10 | 1/8 | -JFE-AN6-FN2 | 1.06 (26.9) | 0.30 (7.5) | 0.63 (15.9) | 0.66 (16.8) |
| | 3/8 | 10 | 1/4 | -JFE-AN6-FN4 | 1.23 (31.2) | 0.30 (7.5) | 0.81 (20.6) | 0.88(22.4) |
| | 3/8 | 10 | 3/8 | -JFE-AN6-FN6 | 1.31 (33.2) | 0.30 (7.5) | 0.94(23.8) | 1.02(25.9) |
| | 1/2 | 12 | 1/4 | -JFE-AN8-FN4 | 1.24(31.6) | 0.39 (9.9) | 0.81 (20.6) | 0.88 (22.4) |
| | 1/2 | 12 | 3/8 | -JFE-AN8-FN6 | 1.42 (36.1) | 0.39 (9.9) | 0.94 (23.8) | 1.02 (25.9) |
| | 1/2 | 12 | 1/2 | -JFE-AN8-FN8 | 1.42 (36.1) | 0.39 (9.9) | 1.06 (27.0) | 1.23 (31.2) |
| | 5/8 | 16 | 1/2 | -JFE-AN10-FN8 | 1.64 (41.7) | 0.48(12.3) | 1.06(27.0) | 1.23(31.2) |
| | 3/4 | 18 | 1/2 | -JFE-AN12-FN8 | 1.66(42.1) | 0.61(15.5) | 1.25 (31.8) | 1.23 (31.2) |
| | 3/4 | 18 | 3/4 | -JFE-AN12-FN12 | 1.89 (48.0) | 0.61(15.5) | 1.37 (34.9) | 1.36 (34.5) |
| | 7/8 | 22 | 3/4 | -JFE-AN14-FN12 | 1.86(47.2) | 0.72(18.3) | 1.37 (34.9) | 1.42 (36.1) |
| | 1 | 25 | 1 | -JFE-AN16-FN16 | 2.17 (55.1) | 0.85(21.5) | 1.69 (42.9) | 1.62 (41.1) |
| | 1 1/4 | 32 | 1 1/4 | -JFE-AN20-FN20 | 2.33(59.2) | 1.08(27.5) | 2.00 (50.8) | 1.70 (43.2) |
| | 1 1/2 | 38 | 1 1/2 | -JFE-AN24-FN24 | 2.89 (73.4) | 1.30(33.0) | 2.50 (63.5) | 2.08 (52.8) |
| | 2 | 50 | 2 | -JFE-AN32-FN32 | 3.30 (83.8) | 1.77(45.0) | 2.50 (63.5) | 2.39 (60.7) |

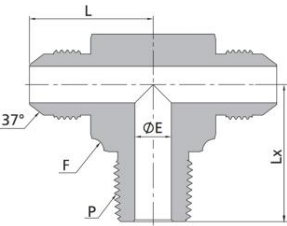
Union Elbows

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

Union Swivel Elbows

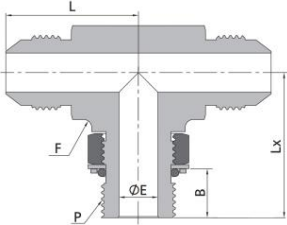
| | Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | | | |
|---|-----------|----|-----------------------|----------------------|------------|------------|------------|------------|
| | in. | m | | L | E | F (Flat) | Lx | G (Hex) |
|  | 1/8 | 3 | -USE-AN2-AS2 | 0.77(19.6) | 0.06(1.6) | 0.44(11.1) | 0.97(24.6) | 0.44(11.1) |
| | 3/16 | 4 | -USE-AN3-AS3 | 0.83(19.6) | 0.13(3.2) | 0.44(11.1) | 1.00(25.4) | 0.50(12.7) |
| | 1/4 | 6 | -USE-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 | -USE-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 | -USE-AN6-AS5 | 1.06(26.9) | 0.30(7.5) | 0.56(14.3) | 1.25(31.8) | 0.69(17.5) |
| | 1/2 | 12 | -USE-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 | -USE-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 | -USE-AN12-AS12 | 1.66(42.2) | 0.61(15.5) | 1.06(26.9) | 1.75(44.4) | 1.25(31.8) |
| | 7/8 | 22 | -USE-AN14-AS14 | 1.80(45.7) | 0.72(18.3) | 1.25(31.8) | 1.78(45.2) | 1.06(26.9) |
| | 1 | 25 | -USE-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 | -USE-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 | -USE-AN24-AS24 | 2.33(59.2) | 1.30(33.0) | 2.00(50.8) | 2.59(65.8) | 2.37(60.3) |
| | 2 | 50 | -USE-AN32-AS32 | 3.06(77.7) | 1.77(45.0) | 2.50(63.5) | 3.38(85.9) | 2.87(73.0) |

Male Branch Tee-NPT



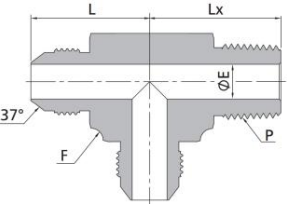
| T-Tube O.D | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|------------|----|---------------|--------------------------|---------------------|-------------|-------------|-------------|
| In. | mm | | | L | E | F (Flat) | Lx |
| 1/8 | 3 | 1/8 | -MBT-AN2-MN2 | 0.77 (19.6) | 0.06 (1.6) | 0.44 (11.1) | 0.72 (18.3) |
| 3/16 | 4 | 1/8 | -MBT-AN3-MN2 | 0.83 (21.1) | 0.13 (3.2) | 0.44 (11.1) | 0.72 (18.3) |
| 1/4 | 6 | 1/8 | MBT-AN4-MN2 | 0.89 (22.6) | 0.17 (4.4) | 0.50 (12.7) | 0.78 (19.8) |
| 1/4 | 6 | 1/4 | -MBT-AN4-MN4 | 1.06 (26.9) | 0.17 (4.4) | 0.56 (14.3) | 1.09 (27.7) |
| 5/16 | 8 | 1/8 | -MBT-AN5-MN2 | 0.95 (24.1) | 0.19 (4.8) | 0.56 (14.3) | 0.78 (19.8) |
| 5/16 | 8 | 1/4 | -MBT-AN5-MN4 | 1.06 (26.9) | 0.24 (6.0) | 0.56 (14.3) | 1.09 (27.7) |
| 3/8 | 10 | 1/8 | -MBT-AN6-MN2 | 1.06 (26.9) | 0.19 (4.8) | 0.56 (14.3) | 0.90 (22.8) |
| 3/8 | 10 | 1/4 | -MBT-AN6-MN4 | 1.06 (26.9) | 0.28 (7.1) | 0.56 (14.3) | 1.09 (27.7) |
| 3/8 | 10 | 3/8 | -MBT-AN6-MN6 | 1.14 (29.0) | 0.30 (7.5) | 0.69 (17.5) | 1.22 (31.0) |
| 3/8 | 10 | 1/2 | -MBT-AN6-MN8 | 1.23 (31.2) | 0.30 (7.5) | 0.81 (20.6) | 1.47 (37.3) |
| 1/2 | 12 | 1/4 | -MBT-AN8-MN4 | 1.25 (31.8) | 0.28 (7.1) | 0.81 (20.6) | 1.22 (31.0) |
| 1/2 | 12 | 3/8 | -MBT-AN8-MN6 | 1.25 (31.8) | 0.39 (9.9) | 0.81 (20.6) | 1.22 (31.0) |
| 1/2 | 12 | 1/2 | -MBT-AN8-MN8 | 1.33 (33.7) | 0.39 (9.9) | 0.81 (20.6) | 1.47 (37.3) |
| 1/2 | 12 | 3/4 | -MBT-AN8-MN12 | 1.42 (36.0) | 0.39 (9.9) | 1.00 (25.4) | 1.59 (40.4) |
| 5/8 | 16 | 3/8 | -MBT-AN10-MN6 | 1.45 (36.8) | 0.39 (9.9) | 0.81 (20.6) | 1.30 (33.0) |
| 5/8 | 16 | 1/2 | -MBT-AN10-MN8 | 1.45 (36.8) | 0.48(12.3) | 0.81 (20.6) | 1.47 (37.3) |
| 5/8 | 16 | 3/4 | -MBT-AN10-MN12 | 1.53 (38.9) | 0.48(12.3) | 1.00 (25.4) | 1.59 (40.4) |
| 3/4 | 18 | 3/4 | -MBT-AN12-MN12 | 1.66 (42.2) | 0.61(15.5) | 1.06 (27.0) | 1.59 (40.4) |
| 3/4 | 18 | 1 | -MBT-AN12-MN16 | 1.66 (42.2) | 0.61(15.5) | 1.25 (31.8) | 1.98 (50.4) |
| 7/8 | 22 | 3/4 | -MBT-AN14-MN12 | 1.80 (45.7) | 0.72(18.3) | 1.25 (31.8) | 1.69 (42.9) |
| 1 | 25 | 3/4 | -MBT-AN16-MN12 | 1.81 (46.0) | 0.72 (18.3) | 1.37 (34.9) | 1.78 (45.2) |
| 1 | 25 | 1 | MBT-AN16-MN16 | 1.81 (46.0) | 0.85 (21.5) | 1.37 (34.9) | 1.97 (50.0) |
| 1 1/4 | 32 | 1 | MBT-AN20-MN16 | 2.06 (52.3) | 0.94 (23.8) | 1.69 (42.9) | 2.35 (59.6) |
| 1 1/4 | 32 | 1 1/4 | MBT-AN20-MN20 | 2.06 (52.3) | 1.08 (27.5) | 1.69 (42.9) | 2.38 (60.5) |
| 1 1/2 | 38 | 1 1/2 | MBT-AN24-MN24 | 2.33 (59.2) | 1.30 (33.0) | 2.00 (50.8) | 2.64 (67.1) |
| 2 | 50 | 2 | MBT-AN32-MN32 | 3.06 (77.7) | 1.77 (45.0) | 2.50 (63.5) | 3.00 (76.2) |

Adjustable Male Branch Tees



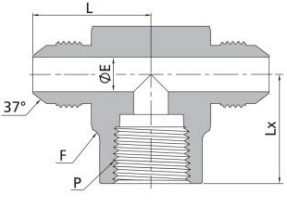
| T-Tube O.D | | P-SAE Thread Size | Basic Ordering Number | Dimension, in. (mm) | | | | |
|------------|----|-------------------------|-----------------------------|---------------------|------------|------------|------------|-------------|
| In. | mm | | | L | E | F (Flat) | Lx | B |
| 1/8 | 3 | 5/16-24 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-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 | -AMB-AN14ST19 | 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 | -AMB-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 | -AMB-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 | -AME-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 | -AME-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



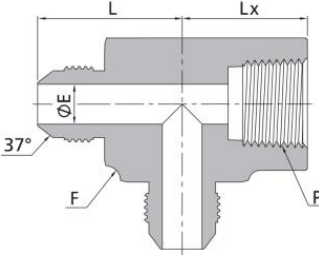
| T-Tube O.D | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|------------|----|------------|-----------------------|---------------------|-------------|-------------|-------------|
| In. | mm | | | L | E | F (Flat) | Lx |
| 1/8 | 3 | 1/8 | -MRT-AN2-MN2 | 0.77 (19.6) | 0.06 (1.6) | 0.44 (11.1) | 0.72(18.3) |
| 3/16 | 4 | 1/8 | -MRT-AN3-MN2 | 0.83 (21.1) | 0.13 (3.2) | 0.44 (11.1) | 0.72(18.3) |
| 1/4 | 6 | 1/8 | -MRT-AN4-MN2 | 0.89 (22.6) | 0.17 (4.4) | 0.50 (12.7) | 0.78(19.8) |
| 1/4 | 6 | 1/4 | -MRT-AN4-MN4 | 1.06 (26.9) | 0.17 (4.4) | 0.56 (14.3) | 1.09(27.7) |
| 5/16 | 8 | 1/8 | -MRT-AN5-MN2 | 0.95 (24.1) | 0.19 (4.8) | 0.56 (14.3) | 0.78(19.8) |
| 5/16 | 8 | 1/4 | -MRT-AN5-MN4 | 1.06 (26.9) | 0.24 (6.0) | 0.56 (14.3) | 1.09(27.7) |
| 3/8 | 10 | 1/8 | -MRT-AN6-MN2 | 1.06 (26.9) | 0.19 (4.8) | 0.56 (14.3) | 0.90(22.8) |
| 3/8 | 10 | 1/4 | -MRT-AN6-MN4 | 1.06 (26.9) | 0.28 (7.1) | 0.56 (14.3) | 1.09(27.7) |
| 3/8 | 10 | 3/8 | -MRT-AN6-MN6 | 1.14 (29.0) | 0.30 (7.5) | 0.69 (17.5) | 1.22(31.0) |
| 3/8 | 10 | 1/2 | -MRT-AN6-MN8 | 1.23 (31.2) | 0.30 (7.5) | 0.81 (20.6) | 1.47(37.3) |
| 1/2 | 12 | 1/4 | -MRT-AN8-MN4 | 1.25 (31.8) | 0.28 (7.1) | 0.81 (20.6) | 1.22(31.0) |
| 1/2 | 12 | 3/8 | -MRT-AN8-MN6 | 1.25 (31.8) | 0.39 (9.9) | 0.81 (20.6) | 1.22(31.0) |
| 1/2 | 12 | 1/2 | -MRT-AN8-MN8 | 1.33 (33.7) | 0.39 (9.9) | 0.81 (20.6) | 1.47(37.3) |
| 1/2 | 12 | 3/4 | -MRT-AN8-MN12 | 1.42 (36.0) | 0.39 (9.9) | 1.00 (25.4) | 1.59 (40.4) |
| 5/8 | 16 | 3/8 | -MRT-AN10-MN6 | 1.45 (36.8) | 0.39 (9.9) | 0.81 (20.6) | 1.30(33.0) |
| 5/8 | 16 | 1/2 | -MRT-AN10-MN8 | 1.45 (36.8) | 0.48(12.3) | 0.81 (20.6) | 1.47(37.3) |
| 5/8 | 16 | 3/4 | -MRT-AN10-MN12 | 1.53 (38.9) | 0.48(12.3) | 1.00 (25.4) | 1.59(40.4) |
| 3/4 | 18 | 3/4 | -MRT-AN12-MN12 | 1.66 (42.2) | 0.61(15.5) | 1.06 (27.0) | 1.59(40.4) |
| 3/4 | 18 | 1 | -MRT-AN12-MN16 | 1.66 (42.2) | 0.61(15.5) | 1.25 (31.8) | 1.98(50.4) |
| 7/8 | 22 | 3/4 | -MRT-AN14-MN12 | 1.80 (45.7) | 0.72(18.3) | 1.25 (31.8) | 1.69(42.9) |
| 1 | 25 | 3/4 | -MRT-AN16-MN12 | 1.81 (46.0) | 0.72 (18.3) | 1.37 (34.9) | 1.78(45.2) |
| 1 | 25 | 1 | -MRT-AN16-MN16 | 1.81 (46.0) | 0.85 (21.5) | 1.37 (34.9) | 1.97(50.0) |
| 1 1/4 | 32 | 1 | -MRT-AN20-MN16 | 2.06 (52.3) | 0.94 (23.8) | 1.69 (42.9) | 2.35(59.6) |
| 1 1/4 | 32 | 1 1/4 | -MRT-AN20-MN20 | 2.06 (52.3) | 1.08 (27.5) | 1.69 (42.9) | 2.38(60.5) |
| 1 1/2 | 38 | 1 1/2 | -MRT-AN24-MN24 | 2.33 (59.2) | 1.30 (33.0) | 2.00 (50.8) | 2.64(67.1) |
| 2 | 50 | 2 | -MRT-AN32-MN32 | 3.06 (77.7) | 1.77 (45.0) | 2.50 (63.5) | 3.00(76.2) |

Female Branch Tees



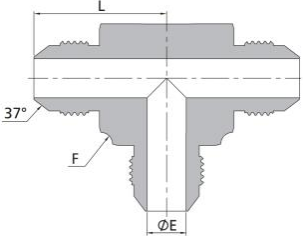
| T-Tube O.D | | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|------------|----|------------|-----------------------|---------------------|-------------|-------------|-------------|
| In. | mm | | | L | E | F (Flat) | Lx |
| 1/8 | 3 | 1/8 | -FBT-AN2-FN2 | 1.00 (25.4) | 0.06 (1.6) | 0.56 (14.3) | 0.66 (16.8) |
| 3/16 | 4 | 1/8 | -FBT-AN3-FN2 | 1.03 (26.2) | 0.13 (3.2) | 0.56 (14.3) | 0.66 (16.8) |
| 1/4 | 6 | 1/8 | -FBT-AN4-FN2 | 1.08 (27.4) | 0.17 (4.4) | 0.56 (14.3) | 0.66 (16.8) |
| 1/4 | 6 | 1/4 | -FBT-AN4-FN4 | 1.22 (30.9) | 0.17 (4.4) | 0.81 (20.6) | 0.88 (22.4) |
| 5/16 | 8 | 1/8 | -FBT-AN5-FN2 | 1.08 (27.4) | 0.24 (6.0) | 0.56 (14.3) | 0.66 (16.8) |
| 5/16 | 8 | 1/4 | -FBT-AN5-FN4 | 1.22 (30.9) | 0.24 (6.0) | 0.81 (20.6) | 0.88 (22.4) |
| 3/8 | 10 | 1/8 | -FBT-AN6-FN2 | 1.06 (26.9) | 0.30 (7.5) | 0.63 (15.9) | 0.66 (16.8) |
| 3/8 | 10 | 1/4 | -FBT-AN6-FN4 | 1.23 (31.2) | 0.30 (7.5) | 0.81 (20.6) | 0.88 (22.4) |
| 3/8 | 10 | 3/8 | -FBT-AN6-FN6 | 1.31 (33.2) | 0.30 (7.5) | 0.94 (23.8) | 1.02 (25.9) |
| 1/2 | 12 | 1/4 | -FBT-AN8-FN4 | 1.24 (31.6) | 0.39 (9.9) | 0.81 (20.6) | 0.88 (22.4) |
| 1/2 | 12 | 3/8 | -FBT-AN8-FN6 | 1.42 (36.1) | 0.39 (9.9) | 0.94 (23.8) | 1.02 (25.9) |
| 1/2 | 12 | 1/2 | -FBT-AN8-FN8 | 1.42 (36.1) | 0.39 (9.9) | 1.06 (27.0) | 1.23 (31.2) |
| 5/8 | 16 | 1/2 | -FBT-AN10-FN8 | 1.64 (41.7) | 0.48 (12.3) | 1.06 (27.0) | 1.23 (31.2) |
| 3/4 | 18 | 1/2 | -FBT-AN12-FN8 | 1.66 (42.1) | 0.61 (15.5) | 1.25 (31.8) | 1.23 (31.2) |
| 3/4 | 18 | 3/4 | -FBT-AN12-FN12 | 1.89 (48.0) | 0.61 (15.5) | 1.37 (34.9) | 1.36 (34.5) |
| 7/8 | 22 | 3/4 | -FBT-AN14-FN12 | 1.86 (47.2) | 0.72 (18.3) | 1.37 (34.9) | 1.42 (36.1) |
| 1 | 25 | 1 | -FBT-AN16-FN16 | 2.17 (55.1) | 0.85 (21.5) | 1.69 (42.9) | 1.62 (41.1) |
| 1 1/4 | 32 | 1 1/4 | -FBT-AN20-FN20 | 2.33 (59.2) | 1.08 (27.5) | 2.00 (50.8) | 1.70 (43.2) |
| 1 1/2 | 38 | 1 1/2 | -FBT-AN24-FN24 | 2.89 (73.4) | 1.30(33.0) | 2.50 (63.5) | 2.08 (52.8) |
| 2 | 50 | 2 | -FBT-AN32-FN32 | 3.30 (83.8) | 1.77(45.0) | 2.50 (63.5) | 2.39 (60.7) |

Female Run Tees



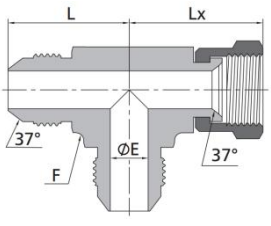
| T-Tube O.D | | P-NP T Size | Basic Ordering Number | Dimension, in. (mm) | | | |
|------------|----|----------------|-----------------------------|---------------------|-------------|-------------|-------------|
| In. | mm | | | L | E | F (Flat) | Lx |
| 1/8 | 3 | 1/8 | -FRT-AN2-FN2 | 1.00 (25.4) | 0.06 (1.6) | 0.56 (14.3) | 0.66(16.8) |
| 3/16 | 4 | 1/8 | -FRT-AN3-FN2 | 1.03 (26.2) | 0.13 (3.2) | 0.56 (14.3) | 0.66(16.8) |
| 1/4 | 6 | 1/8 | -FRT-AN4-FN2 | 1.08 (27.4) | 0.17 (4.4) | 0.56 (14.3) | 0.66(16.8) |
| 1/4 | 6 | 1/4 | -FRT-AN4-FN4 | 1.22 (30.9) | 0.17 (4.4) | 0.81 (20.6) | 0.88(22.4) |
| 5/16 | 8 | 1/8 | -FRT-AN5-FN2 | 1.08 (27.4) | 0.24 (6.0) | 0.56 (14.3) | 0.66(16.8) |
| 5/16 | 8 | 1/4 | -FRT-AN5-FN4 | 1.22 (30.9) | 0.24 (6.0) | 0.81 (20.6) | 0.88(22.4) |
| 3/8 | 10 | 1/8 | -FRT-AN6-FN2 | 1.06 (26.9) | 0.30 (7.5) | 0.63 (15.9) | 0.66 (16.8) |
| 3/8 | 10 | 1/4 | -FRT-AN6-FN4 | 1.23 (31.2) | 0.30 (7.5) | 0.81 (20.6) | 0.88 (22.4) |
| 3/8 | 10 | 3/8 | -FRT-AN6-FN6 | 1.31 (33.2) | 0.30 (7.5) | 0.94 (23.8) | 1.02 (25.9) |
| 1/2 | 12 | 1/4 | -FRT-AN8-FN4 | 1.24 (31.6) | 0.39 (9.9) | 0.81 (20.6) | 0.88 (22.4) |
| 1/2 | 12 | 3/8 | -FRT-AN8-FN6 | 1.42 (36.1) | 0.39 (9.9) | 0.94 (23.8) | 1.02 (25.9) |
| 1/2 | 12 | 1/2 | -FRT-AN8-FN8 | 1.42 (36.1) | 0.39 (9.9) | 1.06 (27.0) | 1.23 (31.2) |
| 5/8 | 16 | 1/2 | -FRT-AN10-FN8 | 1.64 (41.7) | 0.48 (12.3) | 1.06 (27.0) | 1.23 (31.2) |
| 3/4 | 18 | 1/2 | -FRT-AN12-FN8 | 1.66 (42.1) | 0.61 (15.5) | 1.25 (31.8) | 1.23 (31.2) |
| 3/4 | 18 | 3/4 | -FRT-AN12-FN12 | 1.89 (48.0) | 0.61 (15.5) | 1.37 (34.9) | 1.36 (34.5) |
| 7/8 | 22 | 3/4 | -FRT-AN14-FN12 | 1.86 (47.2) | 0.72 (18.3) | 1.37 (34.9) | 1.42 (36.1) |
| 1 | 25 | 1 | -FRT-AN16-FN16 | 2.17 (55.1) | 0.85 (21.5) | 1.69 (42.9) | 1.62 (41.1) |
| 1 1/4 | 32 | 1 1/4 | -FRT-A20-FN20 | 2.33 (59.2) | 1.08 (27.5) | 2.00 (50.8) | 1.70 (43.2) |
| 1 1/2 | 38 | 1 1/2 | -FRT-AN24-FN24 | 2.89 (73.4) | 1.30(33.0) | 2.50 (63.5) | 2.08(52.8) |
| 2 | 50 | 2 | -FRT-AN32-FN32 | 3.30 (83.8) | 1.77(45.0) | 2.50 (63.5) | 2.39(60.7) |

Union Tees



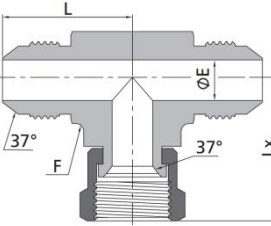
| Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | |
|-----------|----|--------------------------|----------------------|-------------|-------------|
| in. | mm | | L | E | F (Flat) |
| 1/8 | 3 | -JUT-AN2 | 0.77 (19.6) | 0.06 (1.6) | 0.44 (11.1) |
| 3/16 | 4 | -JUT-AN3 | 0.83 (21.1) | 0.13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

Union Run Tee



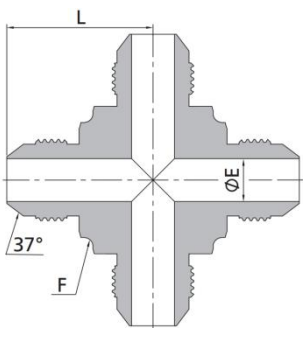
| T-Tube O.D. | | Basic Ordering Number | Dimension, in. (mm) | | | |
|-------------|----|--------------------------|---------------------|------------|------------|------------|
| In. | mm | | L | E | F (Flat) | Lx |
| 1/8 | 3 | -URT-AN2-AS2- AN2 | 0.77(19.6) | 0.06(1.6) | 0.44(11.1) | 0.97(24.6) |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

Union Branch Tee



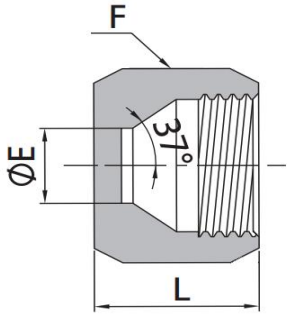
| T-Tube O.D. | | Basic Ordering Number | Dimension, in. (mm) | | | |
|-------------|----|--------------------------|---------------------|------------|------------|------------|
| In. | mm | | L | E | F (Flat) | Lx |
| 1/8 | 3 | -UBT-AN2-AN2- AS2 | 0.77(19.6) | 0.06(1.6) | 0.44(11.1) | 0.97(24.6) |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

Union Crosses



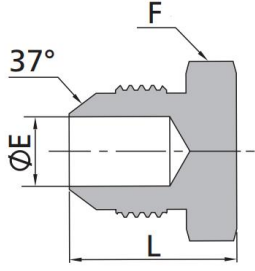
| Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | |
|-----------|----|--------------------------|----------------------|-------------|-------------|
| in. | mm | | L | E | F (Flat) |
| 1/8 | 3 | -JUC-AN2 | 0.77(19.6) | 0.06(1.6) | 0.44(11.1) |
| 3/16 | 4 | -JUC-AN3 | 0.83(21.1) | 0.13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

Tube Caps



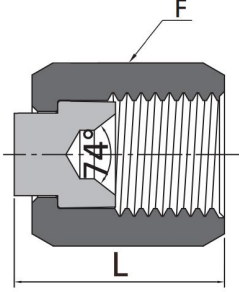
| Tube O.D. | | Basic Ordering Number | Dimensions, in. (mm) | | |
|-----------|----|--------------------------|----------------------|-------------|-------------|
| in. | mm | | L | E | F (Hex) |
| 1/8 | 3 | -JTC-AN2 | 0.50 (12.7) | 0.06 (1.6) | 0.37 (9.5) |
| 3/16 | 4 | -JTC-AN3 | 0.56 (14.3) | 0.13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

Tube Plugs



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

Tube cap assembly



| T-Tube O.D. | | Basic Ordering Number | Dimension, in. (mm) | |
|-------------|----|--------------------------|---------------------|------------|
| In. | mm | | L | G |
| 1/8 | 3 | -TCA-AN2 | 0.6(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 | 18 | -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) | 2.00(57.2) |
| 2 | 50 | -TCA-AN32 | 2.07(52.6) | 2.87(73.0) |

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