



# *Instrumentation Fittings*



## TUBE FITTINGS

### Table Of Contents

#### Straight Coupling Series



Union | P4



Reducing Union | P5-7



Bulkhead Union | P8



Bulkhead Reducer | P9



Bulkhead Reducing Union | P9



Bulkhead Male Connector | P10



Bulkhead Female Connector | P10



Male Connector | P11-13

#### Straight Coupling Series



Female Connector | P14-15

#### Elbow Series



Male Elbow | P16-17



Female Elbow | P18



Union Elbow | P19



Reducing Union Elbow | P20



Male Pipe Weld Elbow | P21



Reducing Elbow | P21

#### Union Tee Series



Union Tee | P22



Reducing Tee | P23-24



Male Run Tee | P25



Female Run Tee | P26



Female Branch Tee | P27



Male Branch Tee | P28

#### Reducer Series



Female Adapter Tube to Pipe | P29-30

## TUBE FITTINGS

### Table Of Contents

#### Reducer Union Series



Male Adapter Tube to Pipe | P31-35



Reducer | P36-38



Reducing Port Connector | P39



Port Connector | P40

#### Weld sleeve joint Series



Male Pipe Weld Connector | P41-42



Weld Adapter Tube to Pipe | P42



Socket Weld Adapter | P43

#### Weld sleeve joint Series



Tube Socket Weld Union | P43

#### Union Cross Series



Union Cross | P44

#### Accessory



Cap | P45



Nut | P46



Plug | P46



Back Ferrule | P47



Front Ferrule | P47

#### Straight Coupling Series



Close Nipple | P48



Hex Long Nipple | P48



Hex Nipple | P48-49



Male to Hose Connector | P50



Female Hose Connector | P51



Tube to Hose Connector | P51



Hex Coupling | P52



Union Ball Joint | P52

## INSTRUMENT PIPE FITTINGS

### Table Of Contents

#### Elbow Series



Elbow | P71



Male Elbow | P53



Street Elbow | P53

#### Union Tee Series



Tee | P54



Male Tee | P54



Street Tee | P54



Branch Tee | P55

#### Union Cross Series



Cross | P55

#### Reducer Union Series



Reducing Bushing | P56



Reducing Nipple | P56



Adapter NPT | P57-59

#### Accessory



Hollow Hex Plug | P60



Hollow Hex Plug | P60



Hex Head Plug | P60



Pipe Plug NPT | P61



Pipe Cap | P61

## Permissible working pressure of stainless steel tube fitting

**Table 1 Stainless steel inch Tubing**

| Tube fitting<br>O.D. | Tube fitting thickness (inch)<br>working pressure psi |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| inch                 | 0.010                                                 | 0.012 | 0.014 | 0.016 | 0.020 | 0.028 | 0.035 | 0.049 | 0.065 | 0.083 | 0.095 | 0.109 | 0.120 | 0.134 | 0.156 | 0.188 |
| 1/16                 | 5600                                                  | 6860  | 8150  | 9480  | 11890 |       |       |       |       |       |       |       |       |       |       |       |
| 1/8                  |                                                       |       |       |       |       | 8550  | 10730 |       |       |       |       |       |       |       |       |       |
| 3/16                 |                                                       |       |       |       |       | 5500  | 7100  | 10150 |       |       |       |       |       |       |       |       |
| 1/4                  |                                                       |       |       |       |       | 4100  | 5200  | 7600  | 10150 |       |       |       |       |       |       |       |
| 5/16                 |                                                       |       |       |       |       |       | 4100  | 5900  | 7975  |       |       |       |       |       |       |       |
| 3/8                  |                                                       |       |       |       |       |       | 3350  | 4850  | 6525  |       |       |       |       |       |       |       |
| 1/2                  |                                                       |       |       |       |       |       | 2650  | 3750  | 5150  | 6525  |       |       |       |       |       |       |
| 5/8                  |                                                       |       |       |       |       |       |       | 2950  | 4050  | 5250  | 5945  |       |       |       |       |       |
| 3/4                  |                                                       |       |       |       |       |       |       | 2450  | 3350  | 4250  | 4950  | 5655  |       |       |       |       |
| 7/8                  |                                                       |       |       |       |       |       |       | 2050  | 2850  | 3650  | 4250  | 4843  |       |       |       |       |
| 1                    |                                                       |       |       |       |       |       |       |       | 2100  | 2700  | 3200  | 3700  | 3987  |       |       |       |
| 1-1/4                |                                                       |       |       |       |       |       |       |       |       | 2400  | 2800  | 3300  | 3600  | 4100  | 4785  |       |
| 1-1/2                |                                                       |       |       |       |       |       |       |       |       |       | 2300  | 2700  | 3000  | 3400  | 4000  | 4785  |
| 2                    |                                                       |       |       |       |       |       |       |       |       |       |       | 2000  | 2000  | 2500  | 2900  | 3600  |

### Advice on ordering information

High quality Annealed (304/304L, model 316/316L) (seamless or welded) stainless steel pipe joint bushing in accordance with ASTM A269 and A213 or equivalent. Hardness does not exceed 90HRB or 200HV. Tube fitting sleeve should be free of scratches and suitable for bending and expansion. For tube fitting sleeves with 1/16 in. , Od tolerance shall not exceed  $\pm 0.003$  in.

**Table 2 Stainless steel metric Tubing**

| Tube fitting<br>O.D. | Tube fitting thickness (inch)<br>working pressure psi |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------------------|-------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| mm                   | 0.8                                                   | 1.0 | 1.2 | 1.5 | 1.8 | 2.0 | 2.2 | 2.5 | 2.8 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 |
| 3                    | 670                                                   |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 6                    | 310                                                   | 420 | 540 | 710 |     |     |     |     |     |     |     |     |     |     |
| 8                    |                                                       | 310 | 390 | 520 |     |     |     |     |     |     |     |     |     |     |
| 10                   |                                                       | 240 | 300 | 400 | 510 |     |     |     |     |     |     |     |     |     |
| 12                   |                                                       | 200 | 250 | 330 | 410 | 470 |     |     |     |     |     |     |     |     |
| 14                   |                                                       | 160 | 200 | 270 | 340 | 380 | 430 |     |     |     |     |     |     |     |
| 15                   |                                                       | 150 | 190 | 250 | 310 | 360 | 400 |     |     |     |     |     |     |     |
| 16                   |                                                       |     | 170 | 230 | 290 | 330 | 370 | 400 |     |     |     |     |     |     |
| 18                   |                                                       |     | 150 | 200 | 260 | 290 | 320 | 370 |     |     |     |     |     |     |
| 20                   |                                                       |     | 140 | 180 | 230 | 260 | 290 | 330 | 380 |     |     |     |     |     |
| 22                   |                                                       |     | 120 | 160 | 200 | 230 | 260 | 300 | 340 |     |     |     |     |     |
| 25                   |                                                       |     |     |     | 180 | 200 | 230 | 260 | 290 | 320 |     |     |     |     |
| 38                   |                                                       |     |     |     |     |     | 140 | 160 | 190 | 200 | 240 | 270 | 310 |     |
| 50                   |                                                       |     |     |     |     |     |     |     |     | 150 | 180 | 210 | 240 | 270 |

### Advice on ordering information

High quality Annealed (304/304L, model 316/316L) stainless steel pipe joint bushing in accordance with ASTM A269 and A213 or equivalent. Hardness does not exceed 90HRB or 200HV. Tube fitting sleeve should be free of scratches and suitable for bending and expansion. For tube fitting sleeves with 3mm , Od tolerance shall not exceed  $\pm 0.076$  in.

Annealed 304 or stainless steel tube fitting sleeve, Must conform to ASTM A213, A269 or equivalent.  
Temperature range: -20 ~100 ( -29 ~37 )

**Table 3 Copper tubing wall thickness of tube in inch**

| Tube fitting<br>O.D. |      | 0.028 | 0.035 | 0.049 | 0.065 | 0.083 | 0.095 | 0.109 | 0.120 |
|----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm                   | inch |       |       |       |       |       |       |       |       |
| 2                    | 1/8  | 2700  | 3600  |       |       |       |       |       |       |
| 3                    | 3/16 | 1800  | 2300  | 3400  |       |       |       |       |       |
| 6                    | 1/4  | 1300  | 1600  | 2500  | 3500  |       |       |       |       |
| 8                    | 5/16 |       | 1300  | 1900  | 2700  |       |       |       |       |
| 10                   | 3/8  |       | 1000  | 1600  | 2200  |       |       |       |       |
| 12                   | 1/2  |       | 800   | 1100  | 1600  | 2100  |       |       |       |
| 16                   | 5/8  |       |       | 900   | 1200  | 1600  | 1900  |       |       |
| 20                   | 3/4  |       |       | 700   | 1000  | 1300  | 1500  | 1800  |       |
| 22                   | 7/8  |       |       | 600   | 800   | 1100  | 1300  | 1500  |       |
| 25                   | 1    |       |       | 500   | 700   | 900   | 1100  | 1300  | 1500  |

**Table 4 Factors used to determine allowable pressure at higher temperatures**

| °F   | °C  | A. I. S. I. 316 | Copper |
|------|-----|-----------------|--------|
| 200  | 93  | 1               | 0.80   |
| 400  | 204 | 0.96            | 0.50   |
| 600  | 316 | 0.85            | — —    |
| 800  | 427 | 0.79            | — —    |
| 1000 | 538 | 0.76            | — —    |

To determine the allowable pressure at high temperatures, The allowable operating pressures in Tables 1 and 2 can be multiplied by the coefficients given in Table 4.  
 Example: Below 400 (204 °C), Size 1/2 "od, x0.049 thickness, model 316 stainless steel allowable pressure =3750 psi x0.96=3600 psi

**Table 5 Gas application tube fitting**

| INCH              |                           | METRIC            |                           |
|-------------------|---------------------------|-------------------|---------------------------|
| Tube fitting O.D. | Minimum nominal thickness | Tube fitting O.D. | Minimum nominal thickness |
| 1/8"              | 0.028                     | 3mm               | 0.8mm                     |
| 3/16"             | 0.028                     | 6mm               | 0.8mm                     |
| 1/4"              | 0.028                     | 8mm               | 1.0mm                     |
| 5/16"             | 0.035                     | 10mm              | 1.0mm                     |
| 3/8"              | 0.035                     | 12mm              | 1.0mm                     |
| 1/2"              | 0.049                     | 14mm              | 1.2mm                     |
| 5/8"              | 0.065                     | 16mm              | 1.5mm                     |
| 3/4"              | 0.065                     | 18mm              | 1.5mm                     |
| 7/8"              | 0.083                     | 20mm              | 1.8mm                     |
| 1"                | 0.083                     | 22mm              | 2.0mm                     |
| 1-1/4"            | 0.109                     | 25mm              | 2.2mm                     |
| 1-1/2"            | 0.134                     | 38mm              | 3.5mm                     |
| 2"                | 0.188                     | 50mm              | 5.0mm                     |

**Table 6 Pressure ratings**

| NPT / ISO<br>Pipe size | 316 SS      |            | Brass      |            |
|------------------------|-------------|------------|------------|------------|
|                        | male        | female     | male       | female     |
| in.                    | psig (bar)  |            |            |            |
| 1/16                   | 11000 (757) | 6700 (461) | 5500 (378) | 3300 (227) |
| 1/8                    | 10000 (689) | 6500 (447) | 5000 (344) | 3200 (220) |
| 1/4                    | 8000 (551)  | 6600 (454) | 4000 (275) | 3300 (227) |
| 3/8                    | 7800 (537)  | 5300 (365) | 3900 (268) | 2600 (179) |
| 1/2                    | 7700 (530)  | 4900 (337) | 3800 (261) | 2400 (165) |
| 3/4                    | 7300 (502)  | 4600 (316) | 3600 (248) | 2300 (158) |
| 1                      | 5300 (365)  | 4400 (303) | 2600 (179) | 2200 (151) |
| 1-1/4                  | 6000 (413)  | 5000 (344) | 3000 (206) | 2500 (172) |
| 1-1/2                  | 5000 (344)  | 4600 (316) | 2500 (172) | 2300 (158) |
| 2                      | 3900 (268)  | 3900 (268) | 1900 (130) | 1900 (130) |

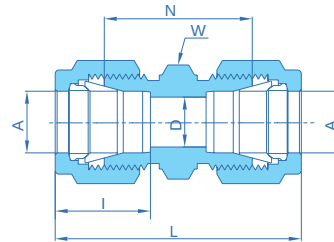
**Table 7 Pressure ratings**

| SAE<br>thread size | 316 SS         |              | Brass          |              |
|--------------------|----------------|--------------|----------------|--------------|
|                    | Psig (bar)     |              | Psig (bar)     |              |
| in.                | nonlocalizable | Positionable | nonlocalizable | Positionable |
| 5/16-24            | 5076 (350)     | 5076 (350)   | 2538 (175)     | 2538 (175)   |
| 3/8-24             | 5076 (350)     | 5076 (350)   | 2538 (175)     | 2538 (175)   |
| 7/16-20            | 5076 (350)     | 4568 (315)   | 2538 (175)     | 2277 (157)   |
| 1/2-20             | 5076 (350)     | 4568 (315)   | 2538 (175)     | 2277 (157)   |
| 9/16-18            | 5076 (350)     | 4061 (280)   | 2538 (175)     | 2030 (140)   |
| 3/4-16             | 4568 (315)     | 4061 (280)   | 2175 (150)     | 2030 (140)   |
| 7/8-14             | 3625 (250)     | 3045 (210)   | 1740 (120)     | 1522 (105)   |
| 1-1/16-12          | 3625 (250)     | 3045 (210)   | 1740 (120)     | 1522 (105)   |
| 1-3/16-12          | 3045 (210)     | 2538 (175)   | 1450 (100)     | 1261 (87)    |
| 1-5/16-12          | 3045 (210)     | 2538 (175)   | 1450 (100)     | 1261 (87)    |
| 1-5/8-12           | 2538 (175)     | 2030 (140)   | 1160 (80)      | 1015 (70)    |
| 1-7/8-12           | 2538 (175)     | 2030 (140)   | 1160 (80)      | 1015 (70)    |
| 2-1/2-12           | 2030 (140)     | 1522 (105)   | 1015 (70)      | 754 (52)     |

**Table 8 Pressure ratings**

| ISO/BSP<br>Male pipe size | 316 SS     | Brass      |
|---------------------------|------------|------------|
| in.                       | Psig (bar) |            |
| 1/8                       | 4568 (315) | 2277 (157) |
| 3/16                      | 4568 (315) | 2277 (157) |
| 1/4                       | 4568 (315) | 2277 (157) |
| 3/8                       | 4568 (315) | 2277 (157) |
| 1/2                       | 2320 (160) | 1160 (80)  |
| 3/4                       | 2320 (160) | 1160 (80)  |
| 1                         | 2320 (160) | 1160 (80)  |

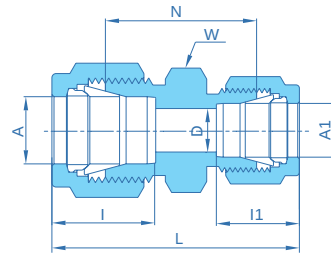
## Union



| TUBE (METRIC) TO TUBE (METRIC) |                |      |                |      |       |      |
|--------------------------------|----------------|------|----------------|------|-------|------|
| Ordering Information           | A<br>Tube O.D. | D    | W<br>Hex. Flat | N    | L     | I    |
|                                | mm             | mm   | mm             | mm   | mm    | mm   |
| SS-QU-2M                       | 2              | 1.7  | 12             | 22.4 | 35.6  | 12.9 |
| SS-QU-3M                       | 3              | 2.4  | 12             | 22.1 | 35.3  | 12.9 |
| SS-QU-4M                       | 4              | 2.4  | 12             | 24.1 | 37.3  | 13.7 |
| SS-QU-6M                       | 6              | 4.8  | 14             | 26.2 | 41.0  | 15.3 |
| SS-QU-8M                       | 8              | 6.4  | 15             | 28.2 | 43.2  | 16.2 |
| SS-QU-10M                      | 10             | 7.9  | 18             | 31.0 | 46.2  | 17.2 |
| SS-QU-12M                      | 12             | 9.5  | 22             | 31.0 | 51.2  | 22.8 |
| SS-QU-14M                      | 14             | 11.1 | 24             | 31.8 | 52.0  | 24.4 |
| SS-QU-15M                      | 15             | 11.9 | 24             | 31.8 | 52.0  | 24.4 |
| SS-QU-16M                      | 16             | 12.7 | 24             | 31.8 | 52.0  | 24.4 |
| SS-QU-18M                      | 18             | 15.1 | 27             | 33.3 | 53.5  | 24.4 |
| SS-QU-20M                      | 20             | 15.9 | 30             | 34.8 | 55.0  | 26.0 |
| SS-QU-22M                      | 22             | 18.3 | 30             | 34.8 | 55.0  | 26.0 |
| SS-QU-25M                      | 25             | 21.8 | 35             | 40.4 | 65.0  | 31.3 |
| SS-QU-30M                      | 30             | 26.2 | 46             | 49.5 | 92.7  | 39.6 |
| SS-QU-32M                      | 32             | 28.6 | 46             | 51.3 | 97.3  | 42   |
| SS-QU-38M                      | 38             | 33.7 | 55             | 58.4 | 114.0 | 49.4 |
| SS-QU-50M                      | 50             | 45.2 | 3 inch         | 71.7 | 146.0 | 65.0 |

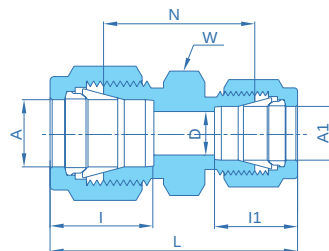
| TUBE (INCH) TO TUBE (INCH) |                |       |      |       |                |      |       |      |        |      |      |
|----------------------------|----------------|-------|------|-------|----------------|------|-------|------|--------|------|------|
| Ordering Information       | A<br>Tube O.D. |       | D    |       | W<br>Hex. Flat | N    |       | L    |        | I    |      |
|                            | inch           | mm    | inch | mm    | inch           | inch | mm    | inch | mm     | inch | mm   |
| SS-VU-01                   | 1/16           | 1.58  | .05  | 1.27  | 5/16           | .69  | 17.52 | .99  | 25.14  | .34  | 8.6  |
| SS-VU-02                   | 1/8            | 3.17  | .09  | 2.28  | 7/16           | .88  | 22.35 | 1.40 | 35.56  | .50  | 12.7 |
| SS-VU-03                   | 3/16           | 4.76  | .12  | 3.04  | 7/16           | .95  | 24.13 | 1.47 | 37.33  | .54  | 13.7 |
| SS-VU-04                   | 1/4            | 6.35  | .19  | 4.82  | 1/2            | 1.03 | 26.16 | 1.61 | 40.89  | .60  | 15.2 |
| SS-VU-05                   | 5/16           | 7.93  | .25  | 6.35  | 9/16           | 1.11 | 28.19 | 1.69 | 42.92  | .64  | 16.2 |
| SS-VU-06                   | 3/8            | 9.52  | .28  | 7.11  | 5/8            | 1.19 | 30.22 | 1.77 | 44.95  | .66  | 16.8 |
| SS-VU-08                   | 1/2            | 12.70 | .41  | 10.41 | 13/16          | 1.22 | 30.98 | 2.02 | 51.30  | .90  | 22.9 |
| SS-VU-10                   | 5/8            | 15.87 | .50  | 12.70 | 15/16          | 1.25 | 31.75 | 2.05 | 52.07  | .96  | 24.4 |
| SS-VU-12                   | 3/4            | 19.05 | .62  | 15.75 | 1-1/6          | 1.31 | 33.27 | 2.11 | 53.59  | .96  | 24.4 |
| SS-VU-14                   | 7/8            | 22.22 | .72  | 18.28 | 1-3/6          | 1.37 | 34.80 | 2.17 | 55.11  | 1.02 | 25.9 |
| SS-VU-16                   | 1              | 25.40 | .88  | 22.35 | 1-3/8          | 1.59 | 40.38 | 2.55 | 64.77  | 1.23 | 31.2 |
| SS-VU-18                   | 1-1/4          | 31.75 | 1.09 | 27.70 | 1-3/4          | 1.89 | 48.00 | 3.63 | 92.20  | 1.62 | 41.2 |
| SS-VU-24                   | 1-1/2          | 38.10 | 1.34 | 34.00 | 2-1/8          | 2.11 | 53.60 | 4.25 | 107.95 | 1.97 | 50.0 |
| SS-VU-32                   | 2              | 50.80 | 1.81 | 45.97 | 2-3/4          | 2.94 | 74.67 | 5.88 | 149.35 | 2.66 | 67.6 |

## Reducing Union



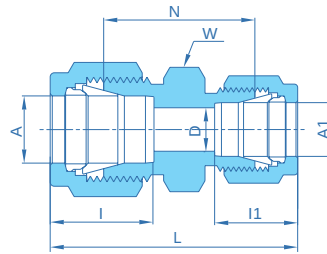
| TUBE (METRIC) TO TUBE (METRIC) |           |           |      |           |      |      |      |      |
|--------------------------------|-----------|-----------|------|-----------|------|------|------|------|
| Ordering Information           | A         | A1        | D    | W         | N    | L    | I    | I1   |
|                                | Tube O.D. | Tube O.D. |      | Hex. Flat |      |      |      |      |
|                                | mm        | mm        | mm   | mm        | mm   | mm   | mm   | mm   |
| SS-VRU-3M-2M                   | 3         | 2         | 1.7  | 12        | 22.1 | 35.3 | 12.9 | 12.9 |
| SS-VRU-6M-2M                   | 6         | 2         | 1.7  | 14        | 24.6 | 38.6 | 15.3 | 12.9 |
| SS-VRU-6M-3M                   | 6         | 3         | 2.4  | 14        | 24.6 | 38.6 | 15.3 | 12.9 |
| SS-VRU-6M-4M                   | 6         | 4         | 2.4  | 14        | 25.4 | 39.4 | 15.3 | 13.7 |
| SS-VRU-8M-6M                   | 8         | 6         | 4.8  | 15        | 27.4 | 42.3 | 16.2 | 15.3 |
| SS-VRU-10M-6M                  | 10        | 6         | 4.8  | 18        | 29.5 | 44.5 | 17.2 | 15.3 |
| SS-VRU-10M-8M                  | 10        | 8         | 6.4  | 18        | 30.0 | 45.1 | 17.2 | 16.2 |
| SS-VRU-12M-6M                  | 12        | 6         | 4.8  | 22        | 29.5 | 47.0 | 22.8 | 15.3 |
| SS-VRU-12M-8M                  | 12        | 8         | 6.4  | 22        | 30.2 | 47.8 | 22.8 | 16.2 |
| SS-VRU-12M-10M                 | 12        | 10        | 7.9  | 22        | 31.0 | 48.7 | 22.8 | 17.2 |
| SS-VRU-16M-10M                 | 16        | 10        | 7.9  | 24        | 31.8 | 49.5 | 24.4 | 17.2 |
| SS-VRU-16M-12M                 | 16        | 12        | 9.5  | 24        | 31.8 | 52.0 | 24.4 | 22.8 |
| SS-VRU-18M-12M                 | 18        | 12        | 9.5  | 27        | 33.3 | 53.5 | 24.4 | 22.8 |
| SS-VRU-25M-18M                 | 25        | 18        | 15.1 | 35        | 38.6 | 61.0 | 31.3 | 24.4 |
| SS-VRU-25M-20M                 | 25        | 20        | 15.9 | 35        | 39.9 | 62.3 | 31.3 | 26.0 |
| SS-VRU-30M-18M                 | 30        | 18        | 15.1 | 46        | 43.7 | 75.4 | 39.6 | 24.4 |
| SS-VRU-30M-20M                 | 30        | 20        | 15.9 | 46        | 43.7 | 75.4 | 39.6 | 26   |
| SS-VRU-30M-25M                 | 30        | 25        | 21.8 | 46        | 46.2 | 80.1 | 39.6 | 31.3 |
| SS-VRU-32M-18M                 | 32        | 18        | 15.1 | 46        | 44.7 | 77.8 | 42   | 24.4 |
| SS-VRU-32M-20M                 | 32        | 20        | 15.9 | 46        | 44.7 | 77.8 | 42   | 26   |
| SS-VRU-32M-25M                 | 32        | 25        | 21.8 | 46        | 47   | 82.3 | 42   | 31.3 |
| SS-VRU-38M-30M                 | 38        | 30        | 26.2 | 55        | 55.8 | 105  | 49.4 | 39.6 |
| SS-VRU-38M-20M                 | 38        | 20        | 15.9 | 55        | 49.8 | 87.5 | 49.4 | 26.0 |
| SS-VRU-38M-25M                 | 38        | 25        | 21.8 | 55        | 55.5 | 95.4 | 49.4 | 31.3 |

## Reducing Union



| TUBE (METRIC) TO TUBE (INCH) |                |                 |      |                |      |      |      |      |
|------------------------------|----------------|-----------------|------|----------------|------|------|------|------|
| Ordering Information         | A<br>Tube O.D. | A1<br>Tube O.D. | D    | W<br>hex. Flat | N    | L    | I    | I1   |
|                              | mm             | mm              | mm   | mm             | mm   | mm   | mm   | mm   |
| SS-VRU-2M-04                 | 2              | 1/4             | 1.7  | 14             | 24.6 | 38.6 | 12.9 | 15.2 |
| SS-VRU-3M-02                 | 3              | 1/8             | 2.4  | 12             | 22.1 | 35.2 | 12.9 | 12.7 |
| SS-VRU-4M-02                 | 4              | 1/8             | 2.4  | 12             | 23.4 | 36.5 | 13.7 | 12.7 |
| SS-VRU-4M-04                 | 4              | 1/4             | 2.4  | 14             | 25.4 | 39.4 | 13.7 | 15.2 |
| SS-VRU-6M-02                 | 6              | 1/8             | 2.4  | 14             | 24.6 | 38.5 | 15.3 | 12.7 |
| SS-VRU-6M-04                 | 6              | 1/4             | 4.8  | 14             | 26.2 | 41.0 | 15.3 | 15.2 |
| SS-VRU-6M-05                 | 6              | 5/16            | 4.8  | 14             | 27.4 | 42.3 | 15.3 | 16.2 |
| SS-VRU-8M-02                 | 8              | 1/8             | 2.4  | 15             | 25.7 | 39.8 | 16.2 | 12.7 |
| SS-VRU-8M-04                 | 8              | 1/4             | 4.8  | 15             | 27.4 | 42.3 | 16.2 | 15.2 |
| SS-VRU-8M-06                 | 8              | 3/8             | 6.4  | 16             | 29.5 | 44.3 | 16.2 | 16.8 |
| SS-VRU-10M-02                | 10             | 1/8             | 2.4  | 18             | 27.7 | 41.8 | 17.2 | 12.7 |
| SS-VRU-10M-04                | 10             | 1/4             | 4.8  | 18             | 29.5 | 44.5 | 17.2 | 15.2 |
| SS-VRU-10M-05                | 10             | 5/16            | 6.4  | 18             | 30.0 | 45.1 | 17.2 | 16.2 |
| SS-VRU-10M-06                | 10             | 3/8             | 7.1  | 18             | 31.0 | 45.9 | 17.2 | 16.8 |
| SS-VRU-12M-05                | 12             | 5/16            | 6.4  | 22             | 30.2 | 47.8 | 22.8 | 16.2 |
| SS-VRU-12M-06                | 12             | 3/8             | 7.1  | 22             | 31.0 | 48.4 | 22.8 | 16.8 |
| SS-VRU-12M-08                | 12             | 1/2             | 9.5  | 22             | 31.0 | 51.2 | 22.8 | 22.9 |
| SS-VRU-15M-08                | 15             | 1/2             | 10.3 | 24             | 31.8 | 52.0 | 24.4 | 22.9 |
| SS-VRU-15M-10                | 15             | 5/8             | 12.7 | 24             | 31.8 | 52.0 | 24.4 | 24.4 |
| SS-VRU-18M-12                | 18             | 3/4             | 15.1 | 27             | 33.3 | 53.5 | 24.4 | 24.4 |

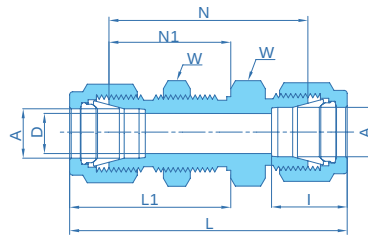
## Reducing Union



### TUBE (INCH) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | D    |       | W<br>Hex. Flat | N    |       | L    |       | I    |      | I1   |      |
|----------------------|----------------|-------|-----------------|-------|------|-------|----------------|------|-------|------|-------|------|------|------|------|
|                      | inch           | mm    | inch            | mm    | inch | mm    | inch           | inch | mm    | inch | mm    | inch | mm   | inch | mm   |
| SS-VRU-02-01         | 1/8            | 3.17  | 1/16            | 1.58  | .05  | 1.27  | 7/16           | .81  | 20.57 | 1.22 | 30.98 | .50  | 12.7 | .34  | 8.6  |
| SS-VRU-03-01         | 3/16           | 4.76  | 1/16            | 1.58  | .05  | 1.27  | 7/16           | .86  | 21.84 | 1.27 | 32.26 | .54  | 13.7 | .34  | 8.6  |
| SS-VRU-03-02         | 3/16           | 4.76  | 1/8             | 3.17  | .09  | 2.28  | 7/16           | .92  | 23.36 | 1.44 | 36.57 | .54  | 13.7 | .50  | 12.7 |
| SS-VRU-04-01         | 1/4            | 6.35  | 1/16            | 1.58  | .05  | 1.27  | 1/2            | .91  | 23.11 | 1.35 | 34.29 | .60  | 15.2 | .34  | 8.6  |
| SS-VRU-04-02         | 1/4            | 6.35  | 1/8             | 3.17  | .09  | 2.28  | 1/2            | .97  | 24.63 | 1.52 | 38.60 | .60  | 15.2 | .50  | 12.7 |
| SS-VRU-04-03         | 1/4            | 6.35  | 3/16            | 4.76  | .12  | 3.04  | 1/2            | 1.00 | 25.40 | 1.55 | 37.37 | .60  | 15.2 | .54  | 13.7 |
| SS-VRU-05-02         | 5/16           | 7.93  | 1/8             | 3.17  | .09  | 2.28  | 9/16           | 1.01 | 25.65 | 1.56 | 39.62 | .64  | 16.2 | .50  | 12.7 |
| SS-VRU-05-04         | 5/16           | 7.93  | 1/4             | 6.35  | .19  | 4.82  | 9/16           | 1.08 | 27.43 | 1.66 | 42.16 | .64  | 16.2 | .60  | 15.2 |
| SS-VRU-06-01         | 3/8            | 9.52  | 1/16            | 1.58  | .05  | 1.27  | 5/8            | 1.00 | 25.40 | 1.44 | 36.58 | .66  | 16.8 | .34  | 8.6  |
| SS-VRU-06-02         | 3/8            | 9.52  | 1/8             | 3.17  | .09  | 2.28  | 5/8            | 1.06 | 26.92 | 1.61 | 40.89 | .66  | 16.8 | .50  | 12.7 |
| SS-VRU-06-04         | 3/8            | 9.52  | 1/4             | 6.35  | .19  | 4.82  | 5/8            | 1.12 | 28.44 | 1.70 | 43.18 | .66  | 16.8 | .60  | 15.2 |
| SS-VRU-06-05         | 3/8            | 9.52  | 5/16            | 7.93  | .25  | 6.35  | 5/8            | 1.16 | 29.46 | 1.74 | 44.19 | .66  | 16.8 | .64  | 16.2 |
| SS-VRU-08-02         | 1/2            | 12.70 | 1/8             | 3.17  | .09  | 2.28  | 13/16          | 1.12 | 28.44 | 1.78 | 45.21 | .90  | 22.9 | .50  | 12.7 |
| SS-VRU-08-04         | 1/2            | 12.70 | 1/4             | 6.35  | .19  | 4.82  | 13/16          | 1.16 | 29.46 | 1.85 | 46.99 | .90  | 22.9 | .60  | 15.2 |
| SS-VRU-08-06         | 1/2            | 12.70 | 3/8             | 9.52  | .28  | 7.11  | 13/16          | 1.22 | 30.98 | 1.91 | 48.51 | .90  | 22.9 | .66  | 16.8 |
| SS-VRU-10-06         | 5/8            | 15.87 | 3/8             | 9.52  | .28  | 7.11  | 15/16          | 1.25 | 31.75 | 1.94 | 49.27 | .96  | 24.4 | .66  | 16.8 |
| SS-VRU-10-08         | 5/8            | 15.87 | 1/2             | 12.70 | .41  | 10.41 | 15/16          | 1.25 | 31.75 | 2.05 | 52.07 | .96  | 24.4 | .90  | 22.9 |
| SS-VRU-12-04         | 3/4            | 19.05 | 1/4             | 6.35  | .19  | 4.82  | 1-1/6          | 1.25 | 31.75 | 1.94 | 49.28 | .96  | 24.4 | .60  | 15.2 |
| SS-VRU-12-06         | 3/4            | 19.05 | 3/8             | 9.52  | .28  | 7.11  | 1-1/6          | 1.31 | 33.27 | 2.00 | 50.80 | .96  | 24.4 | .66  | 16.8 |
| SS-VRU-12-08         | 3/4            | 19.05 | 1/2             | 12.70 | .41  | 10.41 | 1-1/6          | 1.31 | 33.27 | 2.11 | 53.59 | .96  | 24.4 | .90  | 22.9 |
| SS-VRU-12-10         | 3/4            | 19.05 | 5/8             | 15.87 | .50  | 12.70 | 1-1/6          | 1.31 | 33.27 | 2.11 | 53.59 | .96  | 24.4 | .96  | 24.4 |
| SS-VRU-16-08         | 1              | 25.4  | 1/2             | 12.70 | .41  | 10.41 | 1-3/8          | 1.50 | 38.10 | 2.38 | 60.45 | 1.23 | 31.2 | .90  | 22.9 |
| SS-VRU-16-12         | 1              | 25.4  | 3/4             | 19.05 | .62  | 15.75 | 1-3/8          | 1.50 | 38.10 | 2.38 | 60.45 | 1.23 | 31.2 | .96  | 24.4 |

## Bulkhead Union



### TUBE (METRIC) TO TUBE (METRIC)

| Ordering Information | A<br>Tube O.D. |  | D    |  | W<br>Hex. Flat | N    |  | N1   |  | L     |  | L1   |  | I    |  | Panel Hole<br>Drill size |  | Max. panel<br>thickness |  |
|----------------------|----------------|--|------|--|----------------|------|--|------|--|-------|--|------|--|------|--|--------------------------|--|-------------------------|--|
|                      | mm             |  | mm   |  | mm             | mm   |  | mm   |  | mm    |  | mm   |  | mm   |  | mm                       |  | mm                      |  |
| SS-VBU-3M            | 3              |  | 2.4  |  | 14             | 38.1 |  | 24.6 |  | 51.3  |  | 31.2 |  | 12.9 |  | 8.30                     |  | 12.7                    |  |
| SS-VBU-4M            | 4              |  | 2.4  |  | 14             | 40.4 |  | 25.4 |  | 53.6  |  | 32.0 |  | 13.7 |  | 9.90                     |  | 12.7                    |  |
| SS-VBU-6M            | 6              |  | 4.8  |  | 16             | 42.9 |  | 26.2 |  | 57.7  |  | 33.6 |  | 15.3 |  | 11.50                    |  | 10.2                    |  |
| SS-VBU-8M            | 8              |  | 6.4  |  | 18             | 46.0 |  | 28.6 |  | 61.0  |  | 36.1 |  | 16.2 |  | 13.10                    |  | 11.2                    |  |
| SS-VBU-10M           | 10             |  | 7.9  |  | 22             | 48.5 |  | 29.4 |  | 63.7  |  | 37.0 |  | 17.2 |  | 16.25                    |  | 11.2                    |  |
| SS-VBU-12M           | 12             |  | 9.5  |  | 24             | 50.8 |  | 31.8 |  | 71.0  |  | 41.9 |  | 22.8 |  | 19.50                    |  | 12.7                    |  |
| SS-VBU-14M           | 14             |  | 11.0 |  | 27             | 52.3 |  | 32.5 |  | 72.5  |  | 42.6 |  | 24.4 |  | 22.80                    |  | 12.7                    |  |
| SS-VBU-15M           | 15             |  | 11.9 |  | 27             | 52.3 |  | 32.5 |  | 72.5  |  | 42.6 |  | 24.4 |  | 22.80                    |  | 12.7                    |  |
| SS-VBU-16M           | 16             |  | 12.7 |  | 27             | 52.3 |  | 32.5 |  | 72.5  |  | 42.6 |  | 24.4 |  | 22.80                    |  | 12.7                    |  |
| SS-VBU-18M           | 18             |  | 15.1 |  | 30             | 58.7 |  | 37.3 |  | 78.9  |  | 47.4 |  | 24.4 |  | 26.00                    |  | 16.8                    |  |
| SS-VBU-20M           | 20             |  | 15.9 |  | 35             | 64.3 |  | 42.9 |  | 84.5  |  | 53.0 |  | 26.0 |  | 29.00                    |  | 19.0                    |  |
| SS-VBU-25M           | 25             |  | 21.8 |  | 41             | 71.4 |  | 45.2 |  | 96.0  |  | 57.5 |  | 31.3 |  | 33.70                    |  | 19.0                    |  |
| SS-VBU-30M           | 30             |  | 26.2 |  | 50             | 80.5 |  | 48.6 |  | 123.7 |  | 70.2 |  | 39.6 |  | 40.5                     |  | 19                      |  |
| SS-VBU-32M           | 32             |  | 28.6 |  | 50             | 82.3 |  | 49.5 |  | 128.3 |  | 72.5 |  | 42   |  | 42.5                     |  | 19                      |  |
| SS-VBU-38M           | 38             |  | 33.7 |  | 60             | 89.8 |  | 51.9 |  | 145.0 |  | 79.5 |  | 49.4 |  | 50.50                    |  | 19.0                    |  |

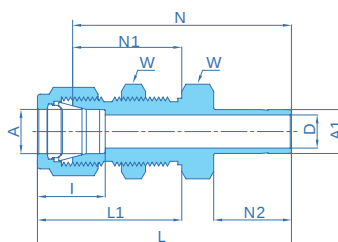
### TUBE (INCH) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | D    |       | W<br>Hex. Flat | N    |        | N1   |       | L    |        | L1   |       | I    |      | Panel Hole<br>Drill size |       | Max. panel<br>thickness |       |
|----------------------|----------------|-------|------|-------|----------------|------|--------|------|-------|------|--------|------|-------|------|------|--------------------------|-------|-------------------------|-------|
|                      | inch           | mm    | inch | mm    | inch           | inch | mm     | inch | mm    | inch | mm     | inch | mm    | inch | mm   | inch                     | mm    | inch                    | mm    |
| SS-VBU-01            | 1/16           | 1.58  | .05  | 1.27  | 5/16           | .94  | 23.88  | .53  | 13.46 | 1.24 | 31.5   | .68  | 17.3  | .34  | 8.6  | 13/64                    | 5.16  | .12                     | 3.05  |
| SS-VBU-02            | 1/8            | 3.17  | .09  | 2.28  | 1/2            | 1.50 | 38.10  | .97  | 24.63 | 2.02 | 51.30  | 1.23 | 31.24 | .50  | 12.7 | 21/64                    | 8.33  | .50                     | 12.70 |
| SS-VBU-03            | 3/16           | 4.76  | .12  | 3.04  | 9/16           | 1.59 | 40.38  | 1.00 | 25.40 | 2.11 | 53.59  | 1.26 | 32.00 | .54  | 13.7 | 25/64                    | 9.92  | .50                     | 12.70 |
| SS-VBU-04            | 1/4            | 6.35  | .19  | 4.82  | 5/8            | 1.69 | 42.92  | 1.03 | 26.16 | 2.27 | 57.65  | 1.32 | 33.52 | .60  | 15.2 | 29/64                    | 11.50 | .40                     | 10.16 |
| SS-VBU-05            | 5/16           | 7.93  | .25  | 6.35  | 11/16          | 1.81 | 45.97  | 1.12 | 28.44 | 2.39 | 60.70  | 1.41 | 35.81 | .64  | 16.2 | 33/64                    | 13.09 | .44                     | 11.17 |
| SS-VBU-06            | 3/8            | 9.52  | .28  | 7.11  | 3/4            | 1.87 | 47.5   | 1.16 | 29.46 | 2.45 | 62.2   | 1.45 | 36.83 | .66  | 16.8 | 37/64                    | 14.68 | .44                     | 11.17 |
| SS-VBU-08            | 1/2            | 12.70 | .41  | 10.41 | 15/16          | 2.00 | 50.80  | 1.25 | 31.75 | 2.80 | 71.12  | 1.65 | 41.91 | .90  | 22.9 | 49/64                    | 19.44 | .50                     | 12.70 |
| SS-VBU-10            | 5/8            | 15.87 | .50  | 12.70 | 1-1/16         | 2.06 | 52.32  | 1.28 | 32.51 | 2.86 | 72.64  | 1.68 | 42.67 | .96  | 24.4 | 57/64                    | 22.62 | .50                     | 12.70 |
| SS-VBU-12            | 3/4            | 19.05 | .62  | 15.75 | 1-3/16         | 2.31 | 58.67  | 1.47 | 37.33 | 3.11 | 78.99  | 1.87 | 47.49 | .96  | 24.4 | 1-1/64                   | 25.79 | .66                     | 16.76 |
| SS-VBU-16            | 1              | 25.40 | .88  | 22.35 | 1-5/8          | 2.81 | 71.37  | 1.78 | 45.21 | 3.77 | 95.76  | 2.26 | 57.40 | 1.23 | 31.2 | 1-21/64                  | 33.73 | .75                     | 19.05 |
| SS-VBU-18            | 1-1/4          | 31.75 | 1.09 | 27.70 | 1-7/8          | 3.11 | 79.00  | 1.88 | 47.75 | 4.85 | 123.19 | 2.75 | 69.85 | 1.62 | 41.2 | 1-41/64                  | 41.67 | .75                     | 19.05 |
| SS-VBU-24            | 1-1/2          | 38.10 | 1.34 | 34.00 | 2-1/4          | 3.34 | 84.80  | 1.94 | 49.28 | 5.48 | 139.19 | 3.01 | 76.45 | 1.97 | 50.0 | 1-61/64                  | 49.61 | .75                     | 19.05 |
| SS-VBU-32            | 2              | 50.80 | 1.81 | 45.97 | 2-3/4          | 4.16 | 105.66 | 2.22 | 56.39 | 7.10 | 180.34 | 3.69 | 93.73 | 2.66 | 67.6 | 2-41/64                  | 67.07 | .75                     | 19.05 |

# Tube Fitting VBR / VRBU Series



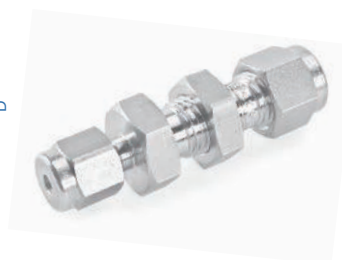
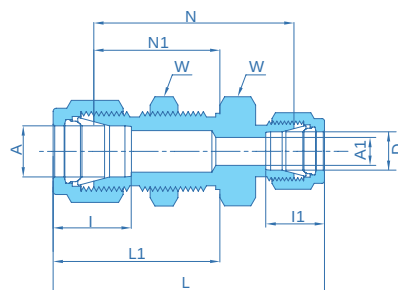
## Bulkhead Reducer



**TUBE (INCH) TO TUBE (INCH)**

| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |     | D     |    | W<br>Hex. Flat | N    |       | N1   |       | N2   |       | L    |        | L1   |       | I    |      | Panel Hole<br>Drill size |       | Max. panel<br>thickness |       |
|----------------------|----------------|-------|-----------------|-----|-------|----|----------------|------|-------|------|-------|------|-------|------|--------|------|-------|------|------|--------------------------|-------|-------------------------|-------|
|                      | inch           | mm    | inch            | mm  | inch  | mm | inch           | inch | mm    | inch | mm    | inch | mm    | inch | mm     | inch | mm    | inch | mm   | inch                     | mm    | inch                    | mm    |
| SS-VBR-02-TB02       | 1/8            | 3.17  | 1/8             | .08 | 2.03  |    | 1/2            | 1.69 | 42.92 | .97  | 24.63 | .53  | 13.46 | 1.95 | 49.53  | 1.23 | 31.24 | .50  | 12.7 | 21/64                    | 8.33  | .50                     | 12.70 |
| SS-VBR-04-TB04       | 1/4            | 6.35  | 1/4             | .17 | 4.20  |    | 5/8            | 1.91 | 48.50 | 1.03 | 26.16 | .62  | 15.74 | 2.20 | 55.88  | 1.32 | 33.52 | .60  | 15.2 | 29/64                    | 11.50 | .40                     | 10.16 |
| SS-VBR-06-TB06       | 3/8            | 9.52  | 3/8             | .28 | 7.11  |    | 3/4            | 2.12 | 53.85 | 1.16 | 29.46 | .69  | 17.52 | 2.41 | 61.21  | 1.45 | 36.83 | .66  | 16.8 | 37/64                    | 14.68 | .44                     | 11.17 |
| SS-VBR-08-TB08       | 1/2            | 12.7  | 1/2             | .39 | 9.90  |    | 15/16          | 2.47 | 62.73 | 1.25 | 31.75 | .91  | 23.11 | 2.87 | 72.89  | 1.65 | 41.91 | .90  | 22.9 | 49/64                    | 19.44 | .50                     | 12.70 |
| SS-VBR-10-TB10       | 5/8            | 15.87 | 5/8             | .50 | 12.70 |    | 1-1/16         | 2.56 | 65.02 | 1.28 | 32.51 | .97  | 24.64 | 2.96 | 75.18  | 1.68 | 42.67 | .96  | 24.4 | 57/64                    | 22.62 | .50                     | 12.70 |
| SS-VBR-12-TB12       | 3/4            | 19.05 | 3/4             | .59 | 15.00 |    | 1-3/16         | 2.81 | 71.37 | 1.47 | 37.33 | .97  | 24.64 | 3.21 | 81.53  | 1.87 | 47.49 | .96  | 24.4 | 1-1/64                   | 25.79 | .66                     | 16.76 |
| SS-VBR-16-TB16       | 1              | 25.40 | 1               | .80 | 20.30 |    | 1-5/8          | 3.47 | 88.14 | 1.78 | 45.21 | 1.30 | 33.02 | 3.95 | 100.33 | 2.26 | 57.40 | 1.23 | 31.2 | 1-21/64                  | 33.73 | .75                     | 19.05 |

## Bulkhead Reducing Union



**TUBE (METRIC) TO TUBE (INCH)**

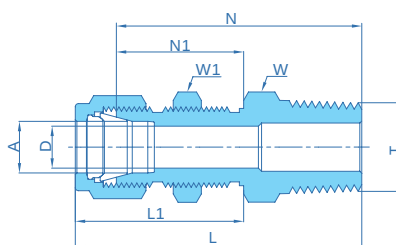
| Ordering Information | A<br>Tube O.D. | A1<br>Tube O.D. | D    |    | W<br>Hex. Flat | N    | N1   | L    | L1   | I    | I1   | Panel Hole<br>Drill size |    | Max. panel<br>thickness |    |
|----------------------|----------------|-----------------|------|----|----------------|------|------|------|------|------|------|--------------------------|----|-------------------------|----|
|                      | mm             | inch            | mm   | mm | mm             | mm   | mm   | mm   | mm   | mm   | mm   | mm                       | mm | mm                      | mm |
| SS-VRBU-6M-02        | 6              | 1/8             | 2.4  |    | 16             | 41.1 | 26.2 | 55.1 | 33.6 | 15.3 | 12.7 | 11.5                     |    | 10.2                    |    |
| SS-VRBU-6M-04        | 6              | 1/4             | 4.8  |    | 16             | 42.9 | 26.2 | 57.7 | 33.6 | 15.3 | 15.2 | 11.5                     |    | 10.2                    |    |
| SS-VRBU-12M-08       | 12             | 1/2             | 9.5  |    | 24             | 50.8 | 31.8 | 71.1 | 41.9 | 22.8 | 22.9 | 19.5                     |    | 12.7                    |    |
| SS-VRBU-18M-12       | 18             | 3/4             | 15.1 |    | 30             | 58.7 | 37.3 | 79.0 | 47.4 | 24.4 | 24.4 | 26.0                     |    | 16.8                    |    |

**TUBE (INCH) TO TUBE (INCH)**

| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | D    |       | W<br>Hex. Flat | N    |       | N1   |       | L    |       | L1   |       | I    |      | I1   |      | Panel Hole<br>Drill size |       | Max. panel<br>thickness |       |
|----------------------|----------------|-------|-----------------|-------|------|-------|----------------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|--------------------------|-------|-------------------------|-------|
|                      | inch           | mm    | inch            | mm    | inch | mm    | inch           | inch | mm    | inch | mm    | inch | mm    | inch | mm    | inch | mm   | inch | mm   | inch                     | mm    | inch                    | mm    |
| SS-VRBU-02-01        | 1/8            | 3.17  | 1/16            | 1.58  | .05  | 1.27  |                | 1.44 | 36.57 | .97  | 24.64 | 1.85 | 46.99 | 1.23 | 31.24 | .50  | 12.7 | .34  | 8.6  | 21/64                    | 8.33  | .50                     | 12.70 |
| SS-VRBU-03-04        | 3/16           | 4.76  | 1/4             | 6.35  | .12  | 3.04  |                | 1.62 | 41.15 | 1.00 | 25.40 | 2.17 | 55.12 | 1.26 | 32.00 | .54  | 13.7 | .60  | 15.2 | 25/64                    | 9.92  | .50                     | 12.70 |
| SS-VRBU-04-02        | 1/4            | 6.35  | 1/8             | 3.17  | .09  | 2.28  |                | 1.62 | 41.15 | 1.03 | 26.16 | 2.17 | 55.12 | 1.32 | 33.53 | .60  | 15.2 | .50  | 12.7 | 29/64                    | 11.50 | .40                     | 10.16 |
| SS-VRBU-04-06        | 1/4            | 6.35  | 3/8             | 9.52  | .19  | 4.82  |                | 1.74 | 44.20 | 1.03 | 26.16 | 2.61 | 66.29 | 1.32 | 33.53 | .60  | 15.2 | .66  | 16.8 | 29/64                    | 11.50 | .40                     | 10.16 |
| SS-VRBU-06-04        | 3/8            | 9.52  | 1/4             | 6.35  | .19  | 4.82  |                | 1.81 | 45.97 | 1.16 | 29.46 | 2.39 | 60.71 | 1.45 | 36.83 | .66  | 16.8 | .60  | 15.2 | 37/64                    | 14.68 | .44                     | 11.17 |
| SS-VRBU-08-04        | 1/2            | 12.70 | 1/4             | 6.35  | .19  | 4.82  |                | 1.94 | 49.28 | 1.25 | 31.75 | 2.63 | 66.80 | 1.65 | 41.91 | .90  | 22.9 | .60  | 15.2 | 49/64                    | 19.44 | .50                     | 12.70 |
| SS-VRBU-08-10        | 1/2            | 12.70 | 5/8             | 15.87 | .41  | 10.41 |                | 2.03 | 51.56 | 1.25 | 31.75 | 2.83 | 71.88 | 1.65 | 41.91 | .90  | 22.9 | .96  | 24.4 | 49/64                    | 19.44 | .50                     | 12.70 |
| SS-VRBU-10-06        | 5/8            | 15.87 | 3/8             | 9.52  | .28  | 7.11  |                | 2.06 | 52.32 | 1.28 | 32.51 | 2.75 | 69.85 | 1.68 | 42.67 | .96  | 24.4 | .66  | 16.8 | 57/64                    | 22.62 | .50                     | 12.70 |

Dimensions are for reference only and are subject to change without prior notice

## Bulkhead Male Connector



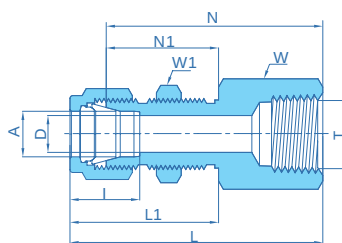
### TUBE (METRIC) TO NPT(M)

| Ordering Information | A<br>Tube O.D. |      | T<br>NPT | D   |    | W<br>Hex. Flat | W1<br>Hex. Flat | N    |    | N1   | L    |    | L1   | Panel Hole<br>Drill size | Max. panel<br>thickness |
|----------------------|----------------|------|----------|-----|----|----------------|-----------------|------|----|------|------|----|------|--------------------------|-------------------------|
|                      | mm             | inch | inch     | mm  | mm | mm             | mm              | mm   | mm | mm   | mm   | mm | mm   | mm                       | mm                      |
| SS-VBMC-6M-M2        | 6              |      | 1/8      | 4.8 |    | 16             | 16              | 42.2 |    | 26.2 | 49.6 |    | 33.6 | 11.5                     | 10.2                    |
| SS-VBMC-6M-M4        | 6              |      | 1/4      | 4.8 |    | 16             | 16              | 46.2 |    | 26.2 | 53.6 |    | 33.6 | 11.5                     | 10.2                    |
| SS-VBMC-12M-M8       | 12             |      | 1/2      | 9.5 |    | 24             | 24              | 58.7 |    | 31.8 | 68.8 |    | 41.9 | 19.5                     | 12.7                    |

### TUBE (INCH) TO NPT(M)

| Ordering Information | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Hex. Flat | W1<br>Hex. Flat | N    |       | N1   | L     |      | L1    | Panel Hole<br>Drill size | Max. panel<br>thickness |
|----------------------|----------------|-------|----------|------|-------|----------------|-----------------|------|-------|------|-------|------|-------|--------------------------|-------------------------|
|                      | inch           | mm    | inch     | inch | mm    | inch           | inch            | inch | mm    | inch | mm    | inch | mm    | inch                     | mm                      |
| SS-VBMC-02-M2        | 1/8            | 3.17  | 1/8      | .09  | 2.28  | 1/2            | 1/2             | 1.57 | 39.90 | .97  | 24.60 | 1.83 | 46.48 | 1.23                     | 31.24                   |
| SS-VBMC-04-M2        | 1/4            | 6.35  | 1/8      | .19  | 4.82  | 5/8            | 5/8             | 1.66 | 42.20 | 1.03 | 26.20 | 1.95 | 49.53 | 1.32                     | 33.52                   |
| SS-VBMC-04-M4        | 1/4            | 6.35  | 1/4      | .19  | 4.82  | 5/8            | 5/8             | 1.84 | 46.70 | 1.03 | 26.16 | 2.13 | 54.10 | 1.32                     | 33.52                   |
| SS-VBMC-06-M4        | 3/8            | 9.52  | 1/4      | .28  | 7.11  | 3/4            | 3/4             | 1.97 | 50.00 | 1.16 | 29.46 | 2.26 | 57.40 | 1.45                     | 36.83                   |
| SS-VBMC-06-M6        | 3/8            | 9.52  | 3/8      | .28  | 7.11  | 3/4            | 3/4             | 1.97 | 50.04 | 1.16 | 29.46 | 2.26 | 57.40 | 1.45                     | 36.83                   |
| SS-VBMC-06-M8        | 3/8            | 9.52  | 1/2      | .28  | 7.11  | 7/8            | 3/4             | 2.22 | 56.39 | 1.16 | 29.46 | 2.51 | 63.75 | 1.45                     | 36.83                   |
| SS-VBMC-08-M6        | 1/2            | 12.70 | 3/8      | .40  | 10.40 | 15/16          | 15/16           | 2.09 | 53.10 | 1.25 | 31.75 | 2.49 | 63.25 | 1.65                     | 41.91                   |
| SS-VBMC-08-M8        | 1/2            | 12.70 | 1/2      | .40  | 10.40 | 15/16          | 15/16           | 2.31 | 58.70 | 1.25 | 31.70 | 2.71 | 68.83 | 1.65                     | 41.91                   |
| SS-VBMC-12-M12       | 3/4            | 19.05 | 3/4      | .62  | 15.74 | 1-3/16         | 1-3/16          | 2.60 | 66.04 | 1.47 | 37.33 | 3.00 | 76.20 | 1.87                     | 47.49                   |
| SS-VBMC-16-M16       | 1              | 25.4  | 1        | .88  | 22.35 | 1-5/8          | 1-5/8           | 3.19 | 81.02 | 1.78 | 45.21 | 3.67 | 93.21 | 2.26                     | 57.40                   |

## Bulkhead Female Connector



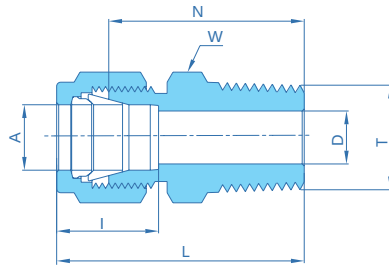
### TUBE (METRIC) TO NPT(F)

| Ordering Information | A<br>Tube O.D. |    | T<br>NPT | D   |    | W<br>Hex. Flat | W1<br>Hex. Flat | N    |    | N1   | L    |    | L1   | I    | Panel Hole<br>Drill size | Max. panel<br>thickness |
|----------------------|----------------|----|----------|-----|----|----------------|-----------------|------|----|------|------|----|------|------|--------------------------|-------------------------|
|                      | mm             | mm | inch     | mm  | mm | mm             | mm              | mm   | mm | mm   | mm   | mm | mm   | mm   | mm                       | mm                      |
| SS-VBFC-6M-F4        | 6              |    | 1/4      | 4.8 |    | 19             | 16              | 44.4 |    | 26.2 | 51.8 |    | 33.6 | 15.3 | 11.5                     | 10.2                    |
| SS-VBFC-12M-F8       | 12             |    | 1/2      | 9.5 |    | 27             | 24              | 56.4 |    | 31.8 | 66.5 |    | 41.9 | 22.8 | 19.5                     | 12.7                    |

### TUBE (INCH) TO NPT(F)

| Ordering Information | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Hex. Flat | W1<br>Hex. Flat | N    |       | N1   | L     |      | L1    | I    | Panel Hole<br>Drill size | Max. panel<br>thickness |
|----------------------|----------------|-------|----------|------|-------|----------------|-----------------|------|-------|------|-------|------|-------|------|--------------------------|-------------------------|
|                      | inch           | mm    | inch     | inch | mm    | inch           | inch            | inch | mm    | inch | mm    | inch | mm    | inch | mm                       | inch                    |
| SS-VBFC-02-F2        | 1/8            | 3.17  | 1/8      | .09  | 2.28  | 9/16           | 1/2             | 1.50 | 38.10 | .97  | 24.63 | 1.76 | 44.70 | 1.23 | 31.24                    | .50                     |
| SS-VBFC-04-F2        | 1/4            | 6.35  | 1/8      | .19  | 4.82  | 5/8            | 5/8             | 1.56 | 39.62 | 1.03 | 26.16 | 1.85 | 46.99 | 1.32 | 33.52                    | .60                     |
| SS-VBFC-04-F4        | 1/4            | 6.35  | 1/4      | .19  | 4.82  | 3/4            | 5/8             | 1.75 | 44.45 | 1.03 | 26.16 | 2.04 | 51.81 | 1.32 | 33.52                    | .60                     |
| SS-VBFC-06-F4        | 3/8            | 9.52  | 1/4      | .28  | 7.11  | 3/4            | 3/4             | 1.88 | 47.75 | 1.16 | 29.46 | 2.17 | 55.11 | 1.45 | 36.83                    | .66                     |
| SS-VBFC-08-F6        | 1/2            | 12.70 | 3/8      | .41  | 10.41 | 15/16          | 15/16           | 2.03 | 51.56 | 1.25 | 31.75 | 2.43 | 61.72 | 1.65 | 41.91                    | .90                     |
| SS-VBFC-08-F8        | 1/2            | 12.70 | 1/2      | .41  | 10.41 | 1-1/16         | 15/16           | 2.22 | 56.38 | 1.25 | 31.75 | 2.62 | 66.54 | 1.65 | 41.91                    | .90                     |

# Tube Fitting VMC Series



## Male Connector

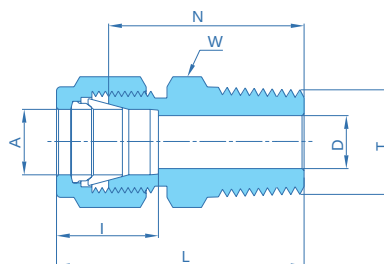
| TUBE (METRIC) MALE NPT THREAD |                |          |      |                |      |       |      |
|-------------------------------|----------------|----------|------|----------------|------|-------|------|
| Ordering Information          | A<br>Tube O.D. | T<br>NPT | D    | W<br>Hex. Flat | N    | L     | I    |
|                               | mm             | inch     | mm   | mm             | mm   | mm    | mm   |
| SS-VMC-2M-M2                  | 2              | 1/8      | 1.7  | 12             | 23.9 | 30.5  | 12.9 |
| SS-VMC-3M-M2                  | 3              | 1/8      | 2.4  | 12             | 23.9 | 30.5  | 12.9 |
| SS-VMC-3M-M4                  | 3              | 1/4      | 2.4  | 14             | 29.0 | 35.6  | 12.9 |
| SS-VMC-4M-M2                  | 4              | 1/8      | 2.4  | 12             | 24.6 | 31.2  | 13.7 |
| SS-VMC-4M-M4                  | 4              | 1/4      | 2.4  | 14             | 29.7 | 36.3  | 13.7 |
| SS-VMC-6M-M2                  | 6              | 1/8      | 4.8  | 14             | 25.4 | 32.8  | 15.3 |
| SS-VMC-6M-M4                  | 6              | 1/4      | 4.8  | 14             | 30.5 | 37.9  | 15.3 |
| SS-VMC-6M-M6                  | 6              | 3/8      | 4.8  | 18             | 31.0 | 38.4  | 15.3 |
| SS-VMC-6M-M8                  | 6              | 1/2      | 4.8  | 22             | 37.3 | 44.7  | 15.3 |
| SS-VMC-8M-M2                  | 8              | 1/8      | 4.8  | 15             | 26.7 | 34.2  | 16.2 |
| SS-VMC-8M-M4                  | 8              | 1/4      | 6.4  | 15             | 31.2 | 38.7  | 16.2 |
| SS-VMC-8M-M6                  | 8              | 3/8      | 6.4  | 18             | 31.8 | 39.3  | 16.2 |
| SS-VMC-8M-M8                  | 8              | 1/2      | 6.4  | 22             | 38.1 | 45.6  | 16.2 |
| SS-VMC-10M-M2                 | 10             | 1/8      | 4.8  | 18             | 28.7 | 36.3  | 17.2 |
| SS-VMC-10M-M4                 | 10             | 1/4      | 7.9  | 18             | 33.3 | 40.9  | 17.2 |
| SS-VMC-10M-M6                 | 10             | 3/8      | 7.9  | 18             | 33.3 | 40.9  | 17.2 |
| SS-VMC-10M-M8                 | 10             | 1/2      | 7.9  | 22             | 38.9 | 46.5  | 17.2 |
| SS-VMC-10M-M12                | 10             | 3/4      | 7.9  | 27             | 40.4 | 48.0  | 17.2 |
| SS-VMC-12M-M2                 | 12             | 1/8      | 4.8  | 22             | 28.7 | 38.8  | 22.8 |
| SS-VMC-12M-M4                 | 12             | 1/4      | 7.1  | 22             | 33.3 | 43.4  | 22.8 |
| SS-VMC-12M-M6                 | 12             | 3/8      | 9.5  | 22             | 33.3 | 43.4  | 22.8 |
| SS-VMC-12M-M8                 | 12             | 1/2      | 9.5  | 22             | 38.9 | 49.0  | 22.8 |
| SS-VMC-12M-M12                | 12             | 3/4      | 9.5  | 27             | 40.4 | 50.5  | 22.8 |
| SS-VMC-14M-M4                 | 14             | 1/4      | 7.1  | 24             | 34.0 | 44.1  | 24.4 |
| SS-VMC-14M-M6                 | 14             | 3/8      | 9.5  | 24             | 34.0 | 44.1  | 24.4 |
| SS-VMC-14M-M8                 | 14             | 1/2      | 11.1 | 24             | 38.9 | 49.0  | 24.4 |
| SS-VMC-15M-M8                 | 15             | 1/2      | 11.9 | 24             | 38.9 | 49.0  | 24.4 |
| SS-VMC-16M-M6                 | 16             | 3/8      | 9.5  | 24             | 34.0 | 44.1  | 24.4 |
| SS-VMC-16M-M8                 | 16             | 1/2      | 11.9 | 24             | 38.9 | 49.0  | 24.4 |
| SS-VMC-16M-M12                | 16             | 3/4      | 12.7 | 27             | 40.4 | 50.5  | 24.4 |
| SS-VMC-18M-M8                 | 18             | 1/2      | 11.9 | 27             | 40.4 | 50.5  | 24.4 |
| SS-VMC-18M-M12                | 18             | 3/4      | 15.1 | 27             | 40.4 | 50.5  | 24.4 |
| SS-VMC-20M-M8                 | 20             | 1/2      | 11.9 | 30             | 42.2 | 52.3  | 26.0 |
| SS-VMC-20M-M12                | 20             | 3/4      | 15.9 | 30             | 42.2 | 52.3  | 26.0 |
| SS-VMC-22M-M12                | 22             | 3/4      | 15.9 | 30             | 42.2 | 52.3  | 26.0 |
| SS-VMC-22M-M16                | 22             | 1        | 18.3 | 35             | 47.0 | 57.1  | 26.0 |
| SS-VMC-25M-M8                 | 25             | 1/2      | 11.9 | 35             | 45.2 | 57.5  | 31.3 |
| SS-VMC-25M-M12                | 25             | 3/4      | 15.9 | 35             | 45.2 | 57.5  | 31.3 |
| SS-VMC-25M-M16                | 25             | 1        | 21.8 | 35             | 50.0 | 62.3  | 31.3 |
| SS-VMC-30M-M18                | 30             | 1-1/4    | 26.2 | 46             | 55.6 | 77.2  | 39.6 |
| SS-VMC-32M-M18                | 32             | 1-1/4    | 28.6 | 46             | 56.6 | 79.6  | 42   |
| SS-VMC-38M-M24                | 38             | 1-1/2    | 33.7 | 55             | 64.0 | 91.6  | 49.4 |
| SS-VMC-50M-M32                | 50             | 2        | 45.2 | 3 inch         | 76.2 | 113.3 | 65.0 |

Dimensions are for reference only and are subject to change without prior notice

# Tube Fitting VMC Series



## Male Connector



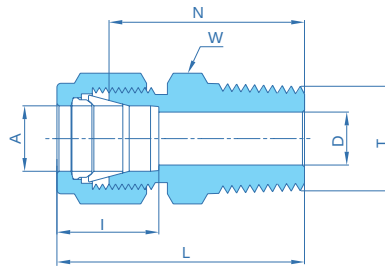
**TUBE (INCH) MALE NPT THREAD**

| Ordering Information | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Hex. Flat | N    |       | L    |       | I    |      |
|----------------------|----------------|-------|----------|------|-------|----------------|------|-------|------|-------|------|------|
|                      | inch           | mm    |          | inch | mm    |                | inch | mm    | inch | mm    | inch | mm   |
| SS-VMC-01-M1         | 1/16           | 1.58  | 1/16     | .05  | 1.27  | 5/16           | .79  | 20.10 | .94  | 23.88 | .34  | 8.6  |
| SS-VMC-01-M2         | 1/16           | 1.58  | 1/8      | .05  | 1.27  | 7/16           | .88  | 22.35 | 1.03 | 26.10 | .34  | 8.6  |
| SS-VMC-01-M4         | 1/16           | 1.58  | 1/4      | .05  | 1.27  | 9/16           | 1.07 | 27.17 | 1.22 | 30.98 | .34  | 8.6  |
| SS-VMC-02-M1         | 1/8            | 3.17  | 1/16     | .09  | 2.28  | 7/16           | .91  | 23.11 | 1.17 | 29.71 | .50  | 12.7 |
| SS-VMC-02-M2         | 1/8            | 3.17  | 1/8      | .09  | 2.28  | 7/16           | .94  | 23.90 | 1.20 | 30.48 | .50  | 12.7 |
| SS-VMC-02-M4         | 1/8            | 3.17  | 1/4      | .09  | 2.28  | 9/16           | 1.14 | 28.95 | 1.40 | 35.56 | .50  | 12.7 |
| SS-VMC-02-M6         | 1/8            | 3.17  | 3/8      | .09  | 2.28  | 11/16          | 1.15 | 29.21 | 1.41 | 35.81 | .50  | 12.7 |
| SS-VMC-02-M8         | 1/8            | 3.17  | 1/2      | .09  | 2.28  | 7/8            | 1.40 | 35.56 | 1.66 | 42.16 | .50  | 12.7 |
| SS-VMC-03-M2         | 3/16           | 4.76  | 1/8      | .12  | 3.04  | 7/16           | .97  | 24.63 | 1.23 | 31.24 | .54  | 13.7 |
| SS-VMC-03-M4         | 3/16           | 4.76  | 1/4      | .12  | 3.04  | 9/16           | 1.17 | 29.72 | 1.43 | 36.32 | .54  | 13.7 |
| SS-VMC-04-M1         | 1/4            | 6.35  | 1/16     | .12  | 3.04  | 1/2            | 1.00 | 25.40 | 1.29 | 32.76 | .60  | 15.2 |
| SS-VMC-04-M2         | 1/4            | 6.35  | 1/8      | .19  | 4.82  | 1/2            | 1.00 | 25.40 | 1.29 | 32.76 | .60  | 15.2 |
| SS-VMC-04-M4         | 1/4            | 6.35  | 1/4      | .19  | 4.82  | 9/16           | 1.20 | 30.50 | 1.49 | 37.85 | .60  | 15.2 |
| SS-VMC-04-M6         | 1/4            | 6.35  | 3/8      | .19  | 4.82  | 11/6           | 1.22 | 30.98 | 1.51 | 38.35 | .60  | 15.2 |
| SS-VMC-04-M8         | 1/4            | 6.35  | 1/2      | .19  | 4.82  | 7/8            | 1.47 | 37.34 | 1.76 | 44.70 | .60  | 15.2 |
| SS-VMC-04-M12        | 1/4            | 6.35  | 3/4      | .19  | 4.82  | 1-1/16         | 1.53 | 38.86 | 1.82 | 46.22 | .60  | 15.2 |
| SS-VMC-05-M2         | 5/16           | 7.93  | 1/8      | .19  | 4.82  | 9/16           | 1.05 | 26.67 | 1.34 | 34.03 | .64  | 16.2 |
| SS-VMC-05-M4         | 5/16           | 7.93  | 1/4      | .25  | 6.35  | 9/16           | 1.23 | 31.24 | 1.52 | 38.60 | .64  | 16.2 |
| SS-VMC-05-M6         | 5/16           | 7.93  | 3/8      | .25  | 6.35  | 11/16          | 1.25 | 31.75 | 1.54 | 39.11 | .64  | 16.2 |
| SS-VMC-06-M2         | 3/8            | 9.52  | 1/8      | .19  | 4.82  | 5/8            | 1.10 | 27.90 | 1.39 | 35.30 | .66  | 16.8 |
| SS-VMC-06-M4         | 3/8            | 9.52  | 1/4      | .28  | 7.11  | 5/8            | 1.28 | 32.51 | 1.57 | 39.87 | .66  | 16.8 |
| SS-VMC-06-M6         | 3/8            | 9.52  | 3/8      | .28  | 7.11  | 11/16          | 1.28 | 32.51 | 1.57 | 39.87 | .66  | 16.8 |
| SS-VMC-06-M8         | 3/8            | 9.52  | 1/2      | .28  | 7.11  | 7/8            | 1.53 | 38.90 | 1.82 | 46.23 | .66  | 16.8 |
| SS-VMC-06-M12        | 3/8            | 9.52  | 3/4      | .28  | 7.11  | 1-1/16         | 1.59 | 40.38 | 1.88 | 47.75 | .66  | 16.8 |
| SS-VMC-06-M16        | 3/8            | 9.52  | 1        | .28  | 7.11  | 1-3/8          | 1.85 | 46.99 | 2.14 | 54.35 | .66  | 16.8 |
| SS-VMC-08-M2         | 1/2            | 12.70 | 1/8      | .19  | 4.82  | 13/16          | 1.13 | 28.70 | 1.53 | 38.86 | .90  | 22.9 |
| SS-VMC-08-M4         | 1/2            | 12.70 | 1/4      | .28  | 7.11  | 13/16          | 1.31 | 33.27 | 1.71 | 43.43 | .90  | 22.9 |
| SS-VMC-08-M6         | 1/2            | 12.70 | 3/8      | .38  | 9.65  | 13/16          | 1.31 | 33.27 | 1.71 | 43.43 | .90  | 22.9 |
| SS-VMC-08-M8         | 1/2            | 12.70 | 1/2      | .41  | 10.41 | 7/8            | 1.53 | 38.90 | 1.93 | 49.02 | .90  | 22.9 |
| SS-VMC-08-M12        | 1/2            | 12.70 | 3/4      | .41  | 10.41 | 1-1/16         | 1.59 | 40.38 | 1.99 | 50.54 | .90  | 22.9 |
| SS-VMC-08-M16        | 1/2            | 12.70 | 1        | .41  | 10.41 | 1-3/8          | 1.85 | 47.00 | 2.25 | 57.15 | .90  | 22.9 |

# Tube Fitting VMC Series



## Male Connector



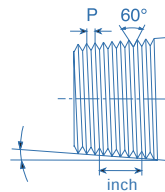
**TUBE (INCH) MALE NPT THREAD**

| Ordering Information | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Wrench Flat | N    |       | L    |        | I    |      |
|----------------------|----------------|-------|----------|------|-------|------------------|------|-------|------|--------|------|------|
|                      | inch           | mm    | inch     | inch | mm    | inch             | inch | mm    | inch | mm     | inch | mm   |
| SS-VMC-10-M4         | 5/8            | 15.87 | 1/4      | .28  | 7.11  | 15/16            | 1.34 | 34.03 | 1.74 | 44.19  | .96  | 24.4 |
| SS-VMC-10-M6         | 5/8            | 15.87 | 3/8      | .38  | 9.65  | 15/16            | 1.34 | 34.03 | 1.74 | 44.19  | .96  | 24.4 |
| SS-VMC-10-M8         | 5/8            | 15.87 | 1/2      | .47  | 11.90 | 15/16            | 1.53 | 38.86 | 1.93 | 49.02  | .96  | 24.4 |
| SS-VMC-10-M12        | 5/8            | 15.87 | 3/4      | .50  | 12.70 | 1-1/16           | 1.59 | 40.38 | 1.99 | 50.54  | .96  | 24.4 |
| SS-VMC-12-M6         | 3/4            | 19.05 | 3/8      | .38  | 9.50  | 1-1/16           | 1.38 | 35.05 | 1.78 | 45.21  | .96  | 24.4 |
| SS-VMC-12-M8         | 3/4            | 19.05 | 1/2      | .47  | 11.90 | 1-1/16           | 1.59 | 40.38 | 1.99 | 50.54  | .96  | 24.4 |
| SS-VMC-12-M12        | 3/4            | 19.05 | 3/4      | .62  | 15.75 | 1-1/16           | 1.59 | 40.38 | 1.99 | 50.54  | .96  | 24.4 |
| SS-VMC-12-M16        | 3/4            | 19.05 | 1        | .62  | 15.75 | 1-3/8            | 1.85 | 47.00 | 2.25 | 57.15  | .96  | 24.4 |
| SS-VMC-14-M8         | 7/8            | 22.22 | 1/2      | .47  | 11.90 | 1-3/16           | 1.59 | 40.38 | 1.99 | 50.54  | 1.02 | 25.9 |
| SS-VMC-14-M12        | 7/8            | 22.22 | 3/4      | .62  | 15.75 | 1-3/16           | 1.59 | 40.38 | 1.99 | 50.54  | 1.02 | 25.9 |
| SS-VMC-14-M16        | 7/8            | 22.22 | 1        | .72  | 18.28 | 1-3/8            | 1.85 | 46.99 | 2.25 | 57.15  | 1.02 | 25.9 |
| SS-VMC-16-M8         | 1              | 25.40 | 1/2      | .47  | 11.90 | 1-3/8            | 1.78 | 45.21 | 2.26 | 57.40  | 1.23 | 31.2 |
| SS-VMC-16-M12        | 1              | 25.40 | 3/4      | .62  | 15.75 | 1-3/8            | 1.78 | 45.21 | 2.26 | 57.40  | 1.23 | 31.2 |
| SS-VMC-16-M16        | 1              | 25.40 | 1        | .88  | 22.35 | 1-3/8            | 1.97 | 50.03 | 2.45 | 62.23  | 1.23 | 31.2 |
| SS-VMC-18-M16        | 1-1/14         | 31.75 | 1        | .86  | 21.80 | 1-3/4            | 2.17 | 55.12 | 3.04 | 77.22  | 1.62 | 41.2 |
| SS-VMC-18-M18        | 1-1/14         | 31.75 | 1-1/4    | 1.09 | 27.70 | 1-3/4            | 2.17 | 55.12 | 3.04 | 77.22  | 1.62 | 41.2 |
| SS-VMC-24-M24        | 1-1/12         | 38.10 | 1-1/2    | 1.34 | 34.00 | 2-1/8            | 2.43 | 61.72 | 3.50 | 88.90  | 1.97 | 50.0 |
| SS-VMC-32-M32        | 2              | 50.80 | 2        | 1.81 | 45.97 | 2-3/4            | 3.00 | 76.20 | 4.47 | 113.54 | 2.66 | 67.6 |

### Reference Specifications:

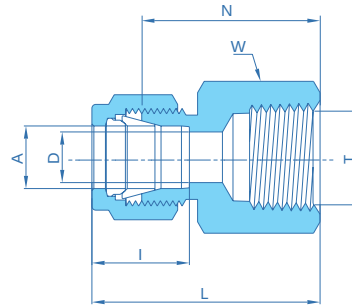
- 60° Thread angle
- Pitch measured in inches
- Truncation of root and crest is flat
- Taper angle 1° 47'

- American Standard Pipe Thread (NPT).
- NPT (National Pipe Tapered) is made according to the specifications outlined in ANSI B1.20.1.



Dimensions are for reference only and are subject to change without prior notice

## Female Connector



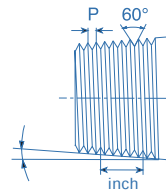
### TUBE (METRIC) TO NPT(F)

| Ordering Information | A<br>Tube O.D. | T<br>(NPT) | D    | W<br>Hex. Flat | N    | L    | I    |
|----------------------|----------------|------------|------|----------------|------|------|------|
|                      | mm             | inch       | mm   | mm             | mm   | mm   | mm   |
| SS-VFC-3M-F2         | 3              | 1/8        | 2.4  | 14             | 22.1 | 28.7 | 12.9 |
| SS-VFC-3M-F4         | 3              | 1/4        | 2.4  | 19             | 26.9 | 33.5 | 12.9 |
| SS-VFC-4M-F2         | 4              | 1/8        | 2.4  | 14             | 23.1 | 29.7 | 13.7 |
| SS-VFC-6M-F2         | 6              | 1/8        | 4.8  | 14             | 23.9 | 31.3 | 15.3 |
| SS-VFC-6M-F4         | 6              | 1/4        | 4.8  | 19             | 28.4 | 35.8 | 15.3 |
| SS-VFC-6M-F6         | 6              | 3/8        | 4.8  | 22             | 30.2 | 37.6 | 15.3 |
| SS-VFC-6M-F8         | 6              | 1/2        | 4.8  | 27             | 35.1 | 42.5 | 15.3 |
| SS-VFC-8M-F2         | 8              | 1/8        | 6.4  | 15             | 24.6 | 32.1 | 16.2 |
| SS-VFC-8M-F4         | 8              | 1/4        | 6.4  | 19             | 29.5 | 37.0 | 16.2 |
| SS-VFC-8M-F6         | 8              | 3/8        | 6.4  | 22             | 31.0 | 38.5 | 16.2 |
| SS-VFC-8M-F8         | 8              | 1/2        | 6.4  | 27             | 35.8 | 43.3 | 16.2 |
| SS-VFC-10M-F4        | 10             | 1/4        | 7.9  | 19             | 30.2 | 37.8 | 17.2 |
| SS-VFC-10M-F6        | 10             | 3/8        | 7.9  | 22             | 31.8 | 39.4 | 17.2 |
| SS-VFC-10M-F8        | 10             | 1/2        | 7.9  | 27             | 36.6 | 44.2 | 17.2 |
| SS-VFC-12M-F4        | 12             | 1/4        | 9.5  | 22             | 30.2 | 40.3 | 22.8 |
| SS-VFC-12M-F6        | 12             | 3/8        | 9.5  | 22             | 31.8 | 41.9 | 22.8 |
| SS-VFC-12M-F8        | 12             | 1/2        | 9.5  | 27             | 36.6 | 46.7 | 22.8 |
| SS-VFC-15M-F8        | 15             | 1/2        | 11.9 | 27             | 36.6 | 46.7 | 24.4 |
| SS-VFC-16M-F8        | 16             | 1/2        | 12.7 | 27             | 36.8 | 46.9 | 24.4 |
| SS-VFC-20M-F8        | 20             | 1/2        | 15.9 | 30             | 37.8 | 47.9 | 26.0 |
| SS-VFC-20M-F12       | 20             | 3/4        | 15.9 | 35             | 39.6 | 49.7 | 26.0 |
| SS-VFC-22M-F12       | 22             | 3/4        | 18.3 | 35             | 39.6 | 49.7 | 26.0 |
| SS-VFC-22M-F16       | 22             | 1          | 18.3 | 41             | 47.8 | 57.9 | 26.0 |
| SS-VFC-25M-F12       | 25             | 3/4        | 21.8 | 35             | 41.1 | 53.4 | 31.3 |
| SS-VFC-25M-F16       | 25             | 1          | 21.8 | 41             | 50.0 | 62.3 | 31.3 |

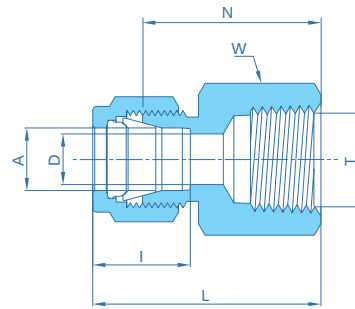
#### Reference Specifications:

- 60° Thread angle
- Pitch measured in inches
- Truncation of root and crest is flat
- Taper angle 1° 47'

- American Standard Pipe Thread (NPT).
- NPT (National Pipe Tapered) is made according to the specifications outlined in ANSI B1.20.1.

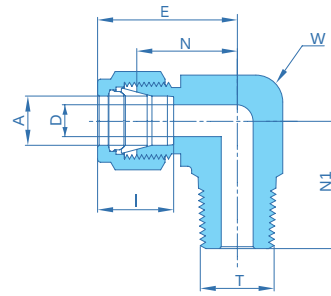


## Female Connector



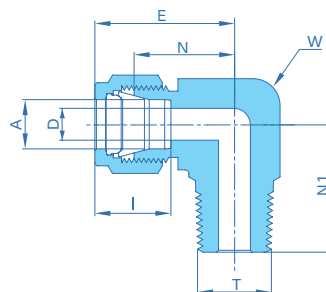
| TUBE (INCH) TO NPT(F) |                |       |            |      |       |                |      |       |      |        |      |      |
|-----------------------|----------------|-------|------------|------|-------|----------------|------|-------|------|--------|------|------|
| Ordering Information  | A<br>Tube O.D. |       | T<br>(NPT) | D    |       | W<br>Hex. Flat | N    |       | L    |        | I    |      |
|                       | inch           | mm    | inch       | inch | mm    | inch           | inch | mm    | inch | mm     | inch | mm   |
| SS-VFC-01-F1          | 1/16           | 1.58  | 1/16       | .05  | 1.27  | 7/16           | .78  | 19.81 | .93  | 23.62  | .34  | 8.6  |
| SS-VFC-01-F2          | 1/16           | 1.58  | 1/8        | .05  | 1.27  | 9/16           | .81  | 20.57 | .96  | 24.38  | .34  | 8.6  |
| SS-VFC-02-F2          | 1/8            | 3.17  | 1/8        | .09  | 2.28  | 9/16           | .87  | 22.10 | 1.13 | 28.70  | .50  | 12.7 |
| SS-VFC-02-F4          | 1/8            | 3.17  | 1/4        | .09  | 2.28  | 3/4            | 1.06 | 26.92 | 1.32 | 33.52  | .50  | 12.7 |
| SS-VFC-03-F2          | 3/16           | 4.76  | 1/8        | .12  | 3.04  | 9/16           | .91  | 23.11 | 1.17 | 29.71  | .54  | 13.7 |
| SS-VFC-04-F2          | 1/4            | 6.35  | 1/8        | .19  | 4.82  | 9/16           | .94  | 23.87 | 1.23 | 31.24  | .60  | 15.2 |
| SS-VFC-04-F4          | 1/4            | 6.35  | 1/4        | .19  | 4.82  | 3/4            | 1.12 | 28.44 | 1.41 | 35.81  | .60  | 15.2 |
| SS-VFC-04-F6          | 1/4            | 6.35  | 3/8        | .19  | 4.82  | 7/8            | 1.19 | 30.22 | 1.48 | 37.59  | .60  | 15.2 |
| SS-VFC-04-F8          | 1/4            | 6.35  | 1/2        | .19  | 4.82  | 1-1/16         | 1.38 | 35.00 | 1.67 | 42.42  | .60  | 15.2 |
| SS-VFC-05-F2          | 5/16           | 7.93  | 1/8        | .25  | 6.35  | 9/16           | .97  | 24.63 | 1.26 | 32.00  | .64  | 16.2 |
| SS-VFC-05-F4          | 5/16           | 7.93  | 1/4        | .25  | 6.35  | 3/4            | 1.16 | 29.46 | 1.45 | 36.83  | .64  | 16.2 |
| SS-VFC-06-F2          | 3/8            | 9.52  | 1/8        | .28  | 7.11  | 5/8            | 1.00 | 25.40 | 1.29 | 32.76  | .66  | 16.8 |
| SS-VFC-06-F4          | 3/8            | 9.52  | 1/4        | .28  | 7.11  | 3/4            | 1.19 | 30.22 | 1.48 | 37.59  | .66  | 16.8 |
| SS-VFC-06-F6          | 3/8            | 9.52  | 3/8        | .28  | 7.11  | 7/8            | 1.25 | 31.75 | 1.54 | 39.11  | .66  | 16.8 |
| SS-VFC-06-F8          | 3/8            | 9.52  | 1/2        | .28  | 7.11  | 1-1/16         | 1.44 | 36.57 | 1.73 | 43.94  | .66  | 16.8 |
| SS-VFC-06-F12         | 3/8            | 9.52  | 3/4        | .28  | 7.11  | 1-5/16         | 1.59 | 40.40 | 1.88 | 47.75  | .66  | 16.8 |
| SS-VFC-08-F4          | 1/2            | 12.70 | 1/4        | .41  | 10.41 | 13/16          | 1.19 | 30.22 | 1.59 | 40.38  | .90  | 22.9 |
| SS-VFC-08-F6          | 1/2            | 12.70 | 3/8        | .41  | 10.41 | 7/8            | 1.25 | 31.75 | 1.65 | 41.91  | .90  | 22.9 |
| SS-VFC-08-F8          | 1/2            | 12.70 | 1/2        | .41  | 10.41 | 1-1/16         | 1.44 | 36.57 | 1.84 | 46.73  | .90  | 22.9 |
| SS-VFC-08-F12         | 1/2            | 12.70 | 3/4        | .41  | 10.41 | 1-5/16         | 1.50 | 38.10 | 1.90 | 48.26  | .90  | 22.9 |
| SS-VFC-10-F6          | 5/8            | 15.87 | 3/8        | .50  | 12.70 | 15/16          | 1.25 | 31.75 | 1.65 | 41.91  | .96  | 24.4 |
| SS-VFC-10-F8          | 5/8            | 15.87 | 1/2        | .50  | 12.70 | 1-1/16         | 1.44 | 36.57 | 1.84 | 46.73  | .96  | 24.4 |
| SS-VFC-10-F12         | 5/8            | 15.87 | 3/4        | .50  | 12.70 | 1-5/16         | 1.50 | 38.10 | 1.90 | 48.26  | .96  | 24.4 |
| SS-VFC-12-F8          | 3/4            | 19.05 | 1/2        | .62  | 15.75 | 1-1/16         | 1.44 | 36.57 | 1.84 | 46.73  | .96  | 24.4 |
| SS-VFC-12-F12         | 3/4            | 19.05 | 3/4        | .62  | 15.75 | 1-5/16         | 1.50 | 38.10 | 1.90 | 48.26  | .96  | 24.4 |
| SS-VFC-14-F12         | 7/8            | 22.22 | 3/4        | .72  | 18.28 | 1-5/16         | 1.56 | 39.62 | 1.96 | 49.78  | 1.02 | 25.9 |
| SS-VFC-16-F12         | 1              | 25.40 | 3/4        | .88  | 22.35 | 1-3/8          | 1.62 | 41.14 | 2.10 | 53.34  | 1.23 | 31.2 |
| SS-VFC-16-F16         | 1              | 25.40 | 1          | .88  | 22.35 | 1-5/8          | 1.97 | 50.03 | 2.45 | 62.23  | 1.23 | 31.2 |
| SS-VFC-18-F18         | 1-1/4          | 31.75 | 1-1/4      | 1.09 | 27.70 | 2-1/4          | 2.07 | 52.59 | 2.94 | 74.68  | 1.62 | 41.2 |
| SS-VFC-24-F24         | 1-1/2          | 38.10 | 1-1/2      | 1.34 | 34.00 | 2-3/8          | 2.21 | 56.13 | 3.28 | 83.31  | 1.97 | 50.0 |
| SS-VFC-32-F32         | 2              | 50.80 | 2          | 1.81 | 45.97 | 2-7/8          | 2.53 | 64.26 | 4.00 | 101.60 | 2.66 | 67.6 |

## Male Elbow



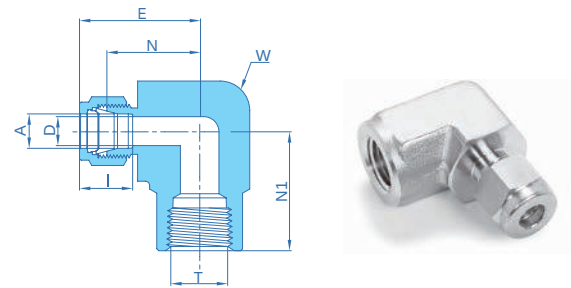
| TUBE (METRIC) TO NPT(M) |                |          |      |                  |      |      |      |      |      |
|-------------------------|----------------|----------|------|------------------|------|------|------|------|------|
| Ordering Information    | A<br>Tube O.D. | T<br>NPT | D    | W<br>Wrench Flat |      | N    | E    | N1   | I    |
|                         | mm             | inch     | mm   | inch             | mm   | mm   | mm   | mm   | mm   |
| SS-VME-3M-M2            | 3              | 1/8      | 2.4  | 7/16             | 11.1 | 17.0 | 23.6 | 17.8 | 12.9 |
| SS-VME-3M-M4            | 3              | 1/4      | 2.4  | 1/2              | 12.7 | 18.0 | 24.6 | 23.4 | 12.9 |
| SS-VME-4M-M2            | 4              | 1/8      | 2.4  | 1/2              | 12.7 | 18.8 | 25.4 | 18.8 | 13.7 |
| SS-VME-4M-M4            | 4              | 1/4      | 2.4  | 1/2              | 12.7 | 18.8 | 25.4 | 23.4 | 13.7 |
| SS-VME-6M-M2            | 6              | 1/8      | 4.8  | 1/2              | 12.7 | 19.6 | 27.0 | 18.8 | 15.3 |
| SS-VME-6M-M4            | 6              | 1/4      | 4.8  | 1/2              | 12.7 | 19.6 | 27.0 | 23.4 | 15.3 |
| SS-VME-6M-M6            | 6              | 3/8      | 4.8  | 11/16            | 17.5 | 22.4 | 29.8 | 26.2 | 15.3 |
| SS-VME-6M-M8            | 6              | 1/2      | 4.8  | 13/16            | 20.6 | 24.4 | 31.8 | 33.0 | 15.3 |
| SS-VME-8M-M2            | 8              | 1/8      | 4.8  | 9/16             | 14.3 | 21.3 | 28.8 | 19.8 | 16.2 |
| SS-VME-8M-M4            | 8              | 1/4      | 6.4  | 9/16             | 14.3 | 21.3 | 28.8 | 24.4 | 16.2 |
| SS-VME-8M-M6            | 8              | 3/8      | 6.4  | 11/16            | 17.5 | 23.1 | 30.6 | 26.2 | 16.2 |
| SS-VME-8M-M8            | 8              | 1/2      | 6.4  | 13/16            | 20.6 | 25.1 | 32.6 | 33.0 | 16.2 |
| SS-VME-10M-M2           | 10             | 1/8      | 4.8  | 11/16            | 17.5 | 23.9 | 31.5 | 21.6 | 17.2 |
| SS-VME-10M-M4           | 10             | 1/4      | 7.1  | 11/16            | 17.5 | 23.9 | 31.5 | 26.2 | 17.2 |
| SS-VME-10M-M6           | 10             | 3/8      | 7.9  | 11/16            | 17.5 | 23.9 | 31.5 | 26.2 | 17.2 |
| SS-VME-10M-M8           | 10             | 1/2      | 7.9  | 13/16            | 20.6 | 25.9 | 33.5 | 33.0 | 17.2 |
| SS-VME-12M-M2           | 12             | 1/8      | 4.8  | 13/16            | 20.6 | 25.9 | 36.0 | 23.6 | 22.8 |
| SS-VME-12M-M4           | 12             | 1/4      | 7.1  | 13/16            | 20.6 | 25.9 | 36.0 | 28.2 | 22.8 |
| SS-VME-12M-M6           | 12             | 3/8      | 9.5  | 13/16            | 20.6 | 25.9 | 36.0 | 28.2 | 22.8 |
| SS-VME-12M-M8           | 12             | 1/2      | 9.5  | 13/16            | 20.6 | 25.9 | 36.0 | 33.0 | 22.8 |
| SS-VME-12M-M12          | 12             | 3/4      | 9.5  | 1-1/16           | 27.0 | 29.7 | 39.8 | 36.8 | 22.8 |
| SS-VME-15M-M8           | 15             | 1/2      | 11.9 | 15/16            | 23.8 | 27.9 | 38.0 | 35.1 | 24.4 |
| SS-VME-16M-M6           | 16             | 3/8      | 9.5  | 15/16            | 23.8 | 27.9 | 38.0 | 30.2 | 24.4 |
| SS-VME-16M-M8           | 16             | 1/2      | 11.9 | 15/16            | 23.8 | 27.9 | 38.0 | 35.1 | 24.4 |
| SS-VME-16M-M12          | 16             | 3/4      | 12.7 | 1-1/16           | 27.0 | 29.7 | 39.8 | 36.8 | 24.4 |
| SS-VME-18M-M8           | 18             | 1/2      | 11.9 | 1-1/16           | 27.0 | 29.7 | 39.8 | 36.8 | 24.4 |
| SS-VME-18M-M12          | 18             | 3/4      | 15.1 | 1-1/16           | 27.0 | 29.7 | 39.8 | 36.8 | 24.4 |
| SS-VME-20M-M8           | 20             | 1/2      | 11.9 | 1-3/8            | 34.9 | 34.5 | 44.6 | 41.7 | 26.0 |
| SS-VME-20M-M12          | 20             | 3/4      | 15.9 | 1-3/8            | 34.9 | 34.5 | 44.6 | 41.7 | 26.0 |
| SS-VME-22M-M12          | 22             | 3/4      | 15.9 | 1-3/8            | 34.9 | 34.5 | 44.6 | 41.7 | 26.0 |
| SS-VME-22M-M16          | 22             | 1        | 18.3 | 1-3/8            | 34.9 | 34.5 | 44.6 | 46.5 | 26.0 |
| SS-VME-25M-M12          | 25             | 3/4      | 15.9 | 1-3/8            | 34.9 | 36.8 | 49.1 | 41.7 | 31.3 |
| SS-VME-25M-M16          | 25             | 1        | 21.8 | 1-3/8            | 34.9 | 36.8 | 49.1 | 46.5 | 31.3 |
| SS-VME-38M-M24          | 38             | 1-1/2    | 33.7 | -                | 55.0 | 56.4 | 84.0 | 60.4 | 49.4 |

## Male Elbow



| TUBE (METRIC) TO NPT(M) |                |       |          |      |      |      |                  |      |       |      |        |      |       |      |      |
|-------------------------|----------------|-------|----------|------|------|------|------------------|------|-------|------|--------|------|-------|------|------|
| Ordering Information    | A<br>Tube O.D. |       | T<br>NPT |      | D    |      | W<br>Wrench Flat | N    |       | E    |        | N1   |       | I    |      |
|                         | inch           | mm    | inch     | mm   | inch | mm   | mm               | inch | mm    | inch | mm     | inch | mm    | inch | mm   |
| SS-VME-01-M1            | 1/16           | 1.58  | 1/16     | .05  | .05  | .05  | 11.1             | .60  | 15.24 | .75  | 19.05  | .70  | 17.78 | .34  | 8.6  |
| SS-VME-01-M2            | 1/16           | 1.58  | 1/8      | .05  | .05  | .05  | 11.1             | .60  | 15.24 | .75  | 19.05  | .70  | 17.78 | .34  | 8.6  |
| SS-VME-02-M1            | 1/8            | 3.17  | 1/16     | .09  | .09  | .09  | 11.1             | .67  | 17.02 | .93  | 23.62  | .70  | 17.78 | .50  | 12.7 |
| SS-VME-02-M2            | 1/8            | 3.17  | 1/8      | .09  | .09  | .09  | 11.1             | .67  | 17.02 | .93  | 23.62  | .70  | 17.78 | .50  | 12.7 |
| SS-VME-02-M4            | 1/8            | 3.17  | 1/4      | .09  | .09  | .09  | 12.7             | .71  | 18.03 | .97  | 24.64  | .92  | 23.37 | .50  | 12.7 |
| SS-VME-03-M2            | 3/16           | 4.76  | 1/8      | .12  | .12  | .12  | 12.7             | .74  | 18.80 | 1.00 | 25.40  | .74  | 18.80 | .54  | 13.7 |
| SS-VME-03-M4            | 3/16           | 4.76  | 1/4      | .12  | .12  | .12  | 12.7             | .74  | 18.80 | 1.00 | 25.40  | .92  | 23.37 | .54  | 13.7 |
| SS-VME-04-M1            | 1/4            | 6.35  | 1/16     | .12  | .12  | .12  | 12.7             | .77  | 19.56 | 1.06 | 26.92  | .74  | 18.80 | .60  | 15.2 |
| SS-VME-04-M2            | 1/4            | 6.35  | 1/8      | .19  | .19  | .19  | 12.7             | .77  | 19.56 | 1.06 | 26.92  | .74  | 18.80 | .60  | 15.2 |
| SS-VME-04-M4            | 1/4            | 6.35  | 1/4      | .19  | .19  | .19  | 12.7             | .77  | 19.56 | 1.06 | 26.92  | .92  | 23.37 | .60  | 15.2 |
| SS-VME-04-M6            | 1/4            | 6.35  | 3/8      | .19  | .19  | .19  | 17.5             | .88  | 22.35 | 1.17 | 29.71  | 1.03 | 26.16 | .60  | 15.2 |
| SS-VME-04-M8            | 1/4            | 6.35  | 1/2      | .19  | .19  | .19  | 20.6             | .96  | 24.38 | 1.25 | 31.75  | 1.30 | 33.02 | .60  | 15.2 |
| SS-VME-05-M2            | 5/16           | 7.93  | 1/8      | .19  | .19  | .19  | 14.3             | .84  | 21.34 | 1.13 | 28.70  | .78  | 19.81 | .64  | 16.2 |
| SS-VME-05-M4            | 5/16           | 7.93  | 1/4      | .25  | .25  | .25  | 14.3             | .84  | 21.34 | 1.13 | 28.70  | .96  | 24.38 | .64  | 16.2 |
| SS-VME-05-M6            | 5/16           | 7.93  | 3/8      | .25  | .25  | .25  | 17.5             | .91  | 23.11 | 1.20 | 30.48  | 1.03 | 26.16 | .64  | 16.2 |
| SS-VME-06-M2            | 3/8            | 9.52  | 1/8      | .19  | .19  | .19  | 15.9             | .91  | 23.11 | 1.20 | 30.48  | .82  | 20.83 | .66  | 16.8 |
| SS-VME-06-M4            | 3/8            | 9.52  | 1/4      | .28  | .28  | .28  | 15.9             | .91  | 23.11 | 1.20 | 30.48  | 1.00 | 25.40 | .66  | 16.8 |
| SS-VME-06-M6            | 3/8            | 9.52  | 3/8      | .28  | .28  | .28  | 17.5             | .94  | 23.87 | 1.23 | 31.24  | 1.03 | 26.16 | .66  | 16.8 |
| SS-VME-06-M8            | 3/8            | 9.52  | 1/2      | .28  | .28  | .28  | 20.6             | 1.02 | 25.90 | 1.31 | 33.28  | 1.30 | 33.02 | .66  | 16.8 |
| SS-VME-06-M12           | 3/8            | 9.52  | 3/4      | .28  | .28  | .28  | 27.0             | 1.17 | 29.71 | 1.46 | 37.08  | 1.45 | 36.83 | .66  | 16.8 |
| SS-VME-08-M4            | 1/2            | 12.70 | 1/4      | .28  | .28  | .28  | 20.6             | 1.02 | 25.90 | 1.42 | 36.07  | 1.11 | 28.19 | .90  | 22.9 |
| SS-VME-08-M6            | 1/2            | 12.70 | 3/8      | .38  | .38  | .38  | 20.6             | 1.02 | 25.90 | 1.42 | 36.07  | 1.11 | 28.19 | .90  | 22.9 |
| SS-VME-08-M8            | 1/2            | 12.70 | 1/2      | .41  | .41  | .41  | 20.6             | 1.02 | 25.90 | 1.42 | 36.07  | 1.30 | 33.02 | .90  | 22.9 |
| SS-VME-08-M12           | 1/2            | 12.70 | 3/4      | .41  | .41  | .41  | 27.0             | 1.17 | 29.71 | 1.57 | 39.88  | 1.45 | 36.83 | .90  | 22.9 |
| SS-VME-10-M6            | 5/8            | 15.87 | 3/8      | .38  | .38  | .38  | 23.8             | 1.10 | 27.94 | 1.50 | 38.10  | 1.19 | 30.23 | .96  | 24.4 |
| SS-VME-10-M8            | 5/8            | 15.87 | 1/2      | .47  | .47  | .47  | 23.8             | 1.10 | 27.94 | 1.50 | 38.10  | 1.38 | 35.05 | .96  | 24.4 |
| SS-VME-10-M12           | 5/8            | 15.87 | 3/4      | .50  | .50  | .50  | 27.0             | 1.17 | 29.71 | 1.57 | 39.88  | 1.45 | 36.83 | .96  | 24.4 |
| SS-VME-12-M8            | 3/4            | 19.05 | 1/2      | .47  | .47  | .47  | 27.0             | 1.17 | 29.71 | 1.57 | 39.88  | 1.45 | 36.83 | .96  | 24.4 |
| SS-VME-12-M12           | 3/4            | 19.05 | 3/4      | .62  | .62  | .62  | 27.0             | 1.17 | 29.71 | 1.57 | 39.88  | 1.45 | 36.83 | .96  | 24.4 |
| SS-VME-14-M12           | 7/8            | 22.22 | 3/4      | .62  | .62  | .62  | 34.9             | 1.36 | 34.54 | 1.76 | 44.70  | 1.64 | 41.66 | 1.02 | 25.9 |
| SS-VME-16-M12           | 1              | 25.40 | 3/4      | .62  | .62  | .62  | 34.9             | 1.45 | 36.83 | 1.93 | 49.02  | 1.64 | 41.66 | 1.23 | 31.2 |
| SS-VME-16-M16           | 1              | 25.40 | 1        | .86  | .86  | .86  | 34.9             | 1.45 | 36.83 | 1.93 | 49.02  | 1.83 | 46.48 | 1.23 | 31.2 |
| SS-VME-18-M18           | 1-1/4          | 31.75 | 1-1/4    | 1.09 | 1.09 | 1.09 | 42.9             | 1.75 | 44.45 | 2.62 | 66.50  | 1.88 | 47.75 | 1.62 | 41.2 |
| SS-VME-24-M24           | 1-1/2          | 38.10 | 1-1/2    | 1.34 | 1.34 | 1.34 | 50.8             | 2.00 | 50.80 | 3.07 | 78.00  | 2.38 | 60.45 | 1.97 | 50.0 |
| SS-VME-32-M32           | 2              | 50.80 | 2        | 1.81 | 1.81 | 1.81 | 69.9             | 2.75 | 69.85 | 4.22 | 107.19 | 2.78 | 70.61 | 2.66 | 67.6 |

# Tube Fitting VFE Series



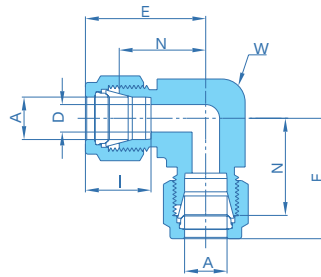
## Female Elbow

| TUBE (METRIC) TO NPT(F) |                |          |      |                  |      |      |      |      |      |  |
|-------------------------|----------------|----------|------|------------------|------|------|------|------|------|--|
| Ordering Information    | A<br>Tube O.D. | T<br>NPT | D    | W<br>Wrench Flat |      | N    | E    | N1   | I    |  |
|                         | mm             | inch     | mm   | inch             | mm   | mm   | mm   | mm   | mm   |  |
| SS-VFE-6M-F2            | 6              | 1/8      | 4.8  | 1/2              | 12.7 | 19.6 | 27.0 | 19.0 | 15.3 |  |
| SS-VFE-6M-F4            | 6              | 1/4      | 4.8  | 11/16            | 17.5 | 22.4 | 29.8 | 22.4 | 15.3 |  |
| SS-VFE-6M-F8            | 6              | 1/2      | 4.8  | 1-1/16           | 27.0 | 27.2 | 34.6 | 28.4 | 15.3 |  |
| SS-VFE-8M-F4            | 8              | 1/4      | 6.4  | 11/16            | 17.5 | 23.1 | 30.6 | 22.4 | 16.2 |  |
| SS-VFE-10M-F2           | 10             | 1/8      | 7.9  | 11/16            | 17.5 | 23.9 | 31.5 | 19.0 | 17.2 |  |
| SS-VFE-10M-F4           | 10             | 1/4      | 7.9  | 13/16            | 20.6 | 25.9 | 33.5 | 22.4 | 17.2 |  |
| SS-VFE-12M-F4           | 12             | 1/4      | 9.5  | 13/16            | 20.6 | 25.9 | 36.0 | 22.4 | 22.8 |  |
| SS-VFE-12M-F8           | 12             | 1/2      | 9.5  | 1-1/16           | 27.0 | 28.7 | 38.8 | 28.4 | 22.8 |  |
| SS-VFE-16M-F8           | 16             | 1/2      | 12.7 | 1-1/16           | 27.0 | 29.7 | 39.8 | 28.4 | 24.4 |  |

| TUBE (INCH) TO NPT(F) |                |       |          |      |       |                  |      |      |       |      |       |      |       |      |      |
|-----------------------|----------------|-------|----------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
| Ordering Information  | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Wrench Flat |      | N    |       | E    |       | N1   |       | I    |      |
|                       | inch           | mm    | inch     | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VFE--02-F2         | 1/8            | 3.17  | 1/8      | .09  | 2.28  | 1/2              | 12.7 | .71  | 18.03 | .97  | 24.64 | .75  | 19.05 | .50  | 12.7 |
| SS-VFE--02-F4         | 1/8            | 3.17  | 1/4      | .09  | 2.28  | 11/16            | 17.5 | .82  | 20.80 | 1.08 | 27.43 | .88  | 22.40 | .50  | 12.7 |
| SS-VFE-03-F2          | 3/16           | 4.76  | 1/8      | .12  | 3.04  | 1/2              | 12.7 | .74  | 18.80 | 1.00 | 25.40 | .75  | 19.05 | .54  | 13.7 |
| SS-VFE-04-F2          | 1/4            | 6.35  | 1/8      | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.55 | 1.06 | 26.92 | .75  | 19.05 | .60  | 15.2 |
| SS-VFE-04-F4          | 1/4            | 6.35  | 1/4      | .19  | 4.82  | 11/16            | 17.5 | .88  | 22.40 | 1.17 | 29.72 | .88  | 22.40 | .60  | 15.2 |
| SS-VFE-04-F6          | 1/4            | 6.35  | 3/8      | .19  | 4.82  | 15/16            | 23.8 | .96  | 24.38 | 1.25 | 31.75 | .88  | 22.40 | .60  | 15.2 |
| SS-VFE-04-F8          | 1/4            | 6.35  | 1/2      | .19  | 4.82  | 1-1/16           | 27.0 | 1.07 | 27.18 | 1.36 | 34.54 | 1.12 | 28.45 | .60  | 15.2 |
| SS-VFE-05-F2          | 5/16           | 7.93  | 1/8      | .25  | 6.35  | 9/16             | 14.3 | .84  | 21.30 | 1.13 | 28.70 | .75  | 19.05 | .64  | 16.2 |
| SS-VFE-05-F4          | 5/16           | 7.93  | 1/4      | .25  | 6.35  | 11/16            | 17.5 | .91  | 23.11 | 1.20 | 30.48 | .88  | 22.40 | .64  | 16.2 |
| SS-VFE-06-F2          | 3/8            | 9.52  | 1/8      | .28  | 7.11  | 5/8              | 15.9 | .91  | 23.11 | 1.20 | 30.48 | .75  | 19.05 | .66  | 16.8 |
| SS-VFE-06-F4          | 3/8            | 9.52  | 1/4      | .28  | 7.11  | 11/16            | 17.5 | 0.94 | 23.87 | 1.23 | 31.24 | .88  | 22.40 | .66  | 16.8 |
| SS-VFE-06-F6          | 3/8            | 9.52  | 3/8      | .28  | 7.11  | 15/16            | 23.8 | 1.02 | 25.90 | 1.31 | 33.27 | .88  | 22.40 | .66  | 16.8 |
| SS-VFE-06-F8          | 3/8            | 9.52  | 1/2      | .28  | 7.11  | 1-1/16           | 27.0 | 1.13 | 28.70 | 1.42 | 36.07 | 1.12 | 28.45 | .66  | 16.8 |
| SS-VFE-08-F4          | 1/2            | 12.70 | 1/4      | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.90 | 1.42 | 36.07 | .88  | 22.40 | .90  | 22.9 |
| SS-VFE-08-F6          | 1/2            | 12.70 | 3/8      | .41  | 10.41 | 15/16            | 23.8 | 1.02 | 25.90 | 1.42 | 36.07 | .88  | 22.40 | .90  | 22.9 |
| SS-VFE-08-F8          | 1/2            | 12.70 | 1/2      | .41  | 10.41 | 1-1/16           | 27.0 | 1.13 | 28.70 | 1.53 | 36.86 | 1.12 | 28.45 | .90  | 22.9 |
| SS-VFE-10-F6          | 5/8            | 15.87 | 3/8      | .50  | 12.70 | 15/16            | 23.8 | 1.10 | 27.90 | 1.50 | 38.10 | .88  | 22.40 | .96  | 24.4 |
| SS-VFE-10-F8          | 5/8            | 15.87 | 1/2      | .50  | 12.70 | 1-1/16           | 27.0 | 1.17 | 29.70 | 1.57 | 39.86 | 1.12 | 28.45 | .96  | 24.4 |
| SS-VFE-12-F8          | 3/4            | 19.05 | 1/2      | .62  | 15.74 | 1-1/16           | 27.0 | 1.17 | 29.70 | 1.57 | 39.86 | 1.12 | 28.45 | .96  | 24.4 |
| SS-VFE-12-F12         | 3/4            | 19.05 | 3/4      | .62  | 15.74 | 1-3/8            | 34.9 | 1.36 | 34.54 | 1.76 | 44.70 | 1.25 | 31.75 | .96  | 24.4 |
| SS-VFE-14-F12         | 7/8            | 22.22 | 3/4      | .72  | 18.28 | 1-3/8            | 34.9 | 1.36 | 34.54 | 1.76 | 44.70 | 1.25 | 31.75 | 1.02 | 25.9 |
| SS-VFE-16-F12         | 1              | 25.40 | 3/4      | .88  | 22.35 | 1-3/8            | 34.9 | 1.45 | 36.83 | 1.93 | 49.02 | 1.25 | 31.75 | 1.23 | 31.2 |
| SS-VFE-16-F16         | 1              | 25.40 | 1        | .88  | 22.35 | 1-11/16          | 42.9 | 1.63 | 41.40 | 2.11 | 53.59 | 1.50 | 38.10 | 1.23 | 31.2 |

Dimensions are for reference only and are subject to change without prior notice

## Union Elbow



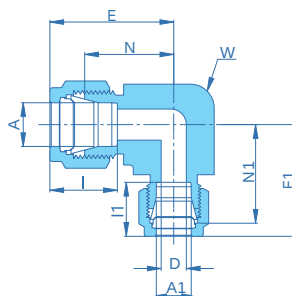
### TUBE (METRIC) TO TUBE (METRIC)

| Ordering Information | A<br>Tube O.D. |  | D    |  | W<br>Wrench Flat |      | N    |  | E     |  | I    |  |
|----------------------|----------------|--|------|--|------------------|------|------|--|-------|--|------|--|
|                      | mm             |  | mm   |  | inch             | mm   | mm   |  | mm    |  | mm   |  |
| SS-VUE-3M            | 3              |  | 2.4  |  | 3/8              | 9.5  | 15.7 |  | 22.3  |  | 12.9 |  |
| SS-VUE-4M            | 4              |  | 2.4  |  | 1/2              | 12.7 | 18.8 |  | 25.4  |  | 13.7 |  |
| SS-VUE-6M            | 6              |  | 4.8  |  | 1/2              | 12.7 | 19.6 |  | 27.0  |  | 15.3 |  |
| SS-VUE-8M            | 8              |  | 6.4  |  | 9/16             | 14.3 | 21.3 |  | 28.8  |  | 16.2 |  |
| SS-VUE-10M           | 10             |  | 7.9  |  | 11/16            | 17.5 | 23.9 |  | 31.5  |  | 17.2 |  |
| SS-VUE-12M           | 12             |  | 9.5  |  | 13/16            | 20.6 | 25.9 |  | 36.0  |  | 22.8 |  |
| SS-VUE-14M           | 14             |  | 11.1 |  | 15/16            | 23.8 | 27.9 |  | 38.0  |  | 24.4 |  |
| SS-VUE-15M           | 15             |  | 11.9 |  | 15/16            | 23.8 | 27.9 |  | 38.0  |  | 24.4 |  |
| SS-VUE-16M           | 16             |  | 12.7 |  | 15/16            | 23.8 | 27.9 |  | 38.0  |  | 24.4 |  |
| SS-VUE-18M           | 18             |  | 15.1 |  | 1-1/6            | 27.0 | 29.7 |  | 39.8  |  | 24.4 |  |
| SS-VUE-20M           | 20             |  | 15.9 |  | 1-3/8            | 34.9 | 34.5 |  | 44.6  |  | 26.0 |  |
| SS-VUE-22M           | 22             |  | 18.3 |  | 1-3/8            | 34.9 | 34.5 |  | 44.6  |  | 26.0 |  |
| SS-VUE-25M           | 25             |  | 21.8 |  | 1-3/8            | 34.9 | 36.8 |  | 49.1  |  | 31.3 |  |
| SS-VUE-38M           | 38             |  | 33.7 |  | -                | 55.0 | 56.4 |  | 84.0  |  | 49.4 |  |
| SS-VUE-50M           | 50             |  | 45.2 |  | 2-3/4            | 69.9 | 68.9 |  | 106.0 |  | 65.0 |  |

### TUBE (INCH) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | D    |       | W<br>Wrench Flat |      | N    |       | E    |        | I    |      |
|----------------------|----------------|-------|------|-------|------------------|------|------|-------|------|--------|------|------|
|                      | inch           | mm    | inch | mm    | inch             | mm   | inch | mm    | inch | mm     | inch | mm   |
| SS-VUE-01            | 1/16           | 1.58  | .05  | 1.27  | 3/8              | 9.5  | .55  | 14.00 | .70  | 17.80  | .34  | 8.6  |
| SS-VUE-02            | 1/8            | 3.17  | .09  | 2.28  | 3/8              | 9.5  | .62  | 15.74 | .88  | 22.35  | .50  | 12.7 |
| SS-VUE-03            | 3/16           | 4.76  | .12  | 3.04  | 1/2              | 12.7 | .70  | 17.80 | .96  | 24.40  | .54  | 13.7 |
| SS-VUE-04            | 1/4            | 6.35  | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.55 | 1.06 | 26.90  | .60  | 15.2 |
| SS-VUE-05            | 5/16           | 7.93  | .25  | 6.35  | 5/8              | 15.9 | .88  | 22.35 | 1.17 | 29.71  | .64  | 16.2 |
| SS-VUE-06            | 3/8            | 9.52  | .28  | 7.11  | 5/8              | 15.9 | .91  | 23.11 | 1.20 | 30.48  | .66  | 16.8 |
| SS-VUE-08            | 1/2            | 12.70 | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.90 | 1.42 | 36.06  | .90  | 22.9 |
| SS-VUE-10            | 5/8            | 15.87 | .50  | 12.70 | 15/16            | 23.8 | 1.13 | 28.70 | 1.53 | 38.90  | .96  | 24.4 |
| SS-VUE-12            | 3/4            | 19.05 | .62  | 15.75 | 1-1/16           | 27.0 | 1.17 | 29.70 | 1.57 | 39.90  | .96  | 24.4 |
| SS-VUE-14            | 7/8            | 22.22 | .72  | 18.28 | 1-3/8            | 34.9 | 1.36 | 34.54 | 1.76 | 44.70  | 1.02 | 25.9 |
| SS-VUE-16            | 1              | 25.40 | .88  | 22.35 | 1-3/8            | 34.9 | 1.45 | 36.83 | 1.93 | 49.00  | 1.23 | 31.2 |
| SS-VUE-18            | 1-1/4          | 31.75 | 1.09 | 27.70 | 1-11/16          | 42.9 | 1.75 | 44.50 | 2.62 | 66.55  | 1.62 | 41.2 |
| SS-VUE-24            | 1-1/2          | 38.10 | 1.34 | 34.00 | 2                | 50.8 | 2.00 | 50.80 | 3.07 | 77.98  | 1.97 | 50.0 |
| SS-VUE-32            | 2              | 50.80 | 1.81 | 45.97 | 2-3/4            | 69.9 | 2.75 | 69.85 | 4.22 | 107.19 | 2.66 | 67.6 |

## Reducing Union Elbow



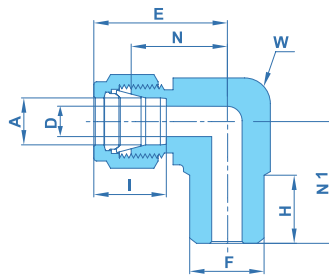
### TUBE (METRIC) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |      | A1<br>Tube O.D. |      | E    |      | E1  |      | I    |      | I1   |    | D  |    | W<br>Wrench Flat |    | N  |    | N1 |    |
|----------------------|----------------|------|-----------------|------|------|------|-----|------|------|------|------|----|----|----|------------------|----|----|----|----|----|
|                      | mm             | inch | mm              | inch | mm   | mm   | mm  | mm   | mm   | mm   | mm   | mm | mm | mm | in.              | mm | mm | mm | mm | mm |
| SS-VRUE-6M-04        | 6              | 1/4  | 27.0            | 26.9 | 15.3 | 15.2 | 4.8 | 1/2  | 12.7 | 19.6 | 19.6 |    |    |    |                  |    |    |    |    |    |
| SS-VRUE-8M-04        | 8              | 1/4  | 28.8            | 28.7 | 16.2 | 15.2 | 4.8 | 9/16 | 14.3 | 21.3 | 21.3 |    |    |    |                  |    |    |    |    |    |

### TUBE (INCH) TO TUBE (INCH)

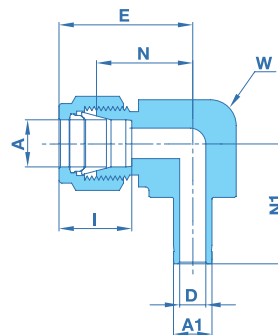
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |      | E    |       | E1   |       | I    |      | I1   |      | D    |      | W<br>Wrench Flat |      | N    |       | N1   |       |
|----------------------|----------------|-------|-----------------|------|------|-------|------|-------|------|------|------|------|------|------|------------------|------|------|-------|------|-------|
|                      | inch           | mm    | inch            | mm   | inch | mm    | inch | mm    | inch | mm   | inch | mm   | inch | mm   | inch             | mm   | inch | mm    | inch | mm    |
| SS-VRUE-06-04        | 3/8            | 9.52  | 1/4             | 6.35 | 1.20 | 30.48 | 1.20 | 30.48 | .66  | 16.8 | .60  | 15.2 | .19  | 4.82 | 5/8              | 15.9 | .91  | 23.11 | .91  | 23.11 |
| SS-VRUE-10-06        | 5/8            | 15.87 | 3/8             | 9.52 | 1.50 | 38.10 | 1.39 | 35.31 | .96  | 24.4 | .66  | 16.8 | .28  | 7.11 | 15/16            | 23.8 | 1.10 | 27.94 | 1.10 | 27.94 |

## Male Pipe Weld Elbow



| TUBE (INCH)          |                |       |                |       |      |       |                  |      |      |       |      |       |      |       |      |       |      |      |
|----------------------|----------------|-------|----------------|-------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|-------|------|------|
| Ordering Information | A<br>Tube O.D. |       | F<br>Tube O.D. |       | D    |       | W<br>Wrench Flat |      | N    |       | H    |       | E    |       | N1   |       | I    |      |
|                      | inch           | mm    | inch           | mm    | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VWE-04-TW02       | 1/4            | 6.35  | 1/8            | 10.30 | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | .38  | 9.65  | 1.06 | 26.92 | .74  | 18.8  | .60  | 15.2 |
| SS-VWE-04-TW04       | 1/4            | 6.35  | 1/4            | 13.70 | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | .56  | 14.22 | 1.06 | 26.92 | .92  | 23.37 | .60  | 15.2 |
| SS-VWE-06-TW04       | 3/8            | 9.52  | 1/4            | 13.70 | .28  | 7.11  | 5/8              | 15.9 | .91  | 23.11 | .56  | 14.22 | 1.20 | 30.48 | 1.00 | 25.40 | .66  | 16.8 |
| SS-VWE-08-TW08       | 1/2            | 12.70 | 1/2            | 21.34 | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.90 | .75  | 19.05 | 1.42 | 36.06 | 1.30 | 33.02 | .90  | 22.9 |
| SS-VWE-12-TW12       | 3/4            | 19.05 | 3/4            | 26.67 | .62  | 15.75 | 1-1/16           | 27.0 | 1.17 | 29.72 | .75  | 19.05 | 1.57 | 39.88 | 1.45 | 36.83 | .96  | 24.4 |

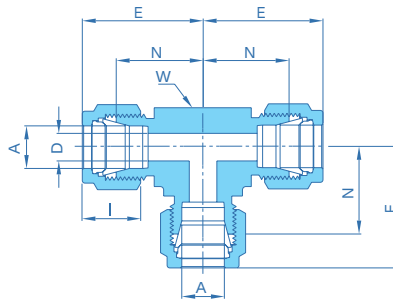
## Reducing Elbow



| TUBE (METRIC) TO STUB (METRIC) |                |                 |      |                  |      |      |      |      |      |
|--------------------------------|----------------|-----------------|------|------------------|------|------|------|------|------|
| Ordering Information           | A<br>Tube O.D. | A1<br>Tube O.D. | D    | W<br>Wrench Flat |      | N    | E    | N1   | I    |
|                                | mm             | mm              | mm   | inch             | mm   | mm   | mm   | mm   | mm   |
| SS-VRE-6M-TB6M                 | 6              | 6               | 4.0  | 1/2              | 12.7 | 19.6 | 27.0 | 23.8 | 15.3 |
| SS-VRE-12M-TB12M               | 12             | 12              | 8.8  | 1-1/8            | 28.6 | 27.9 | 38.0 | 40.4 | 22.8 |
| SS-VRE-15M-TB15M               | 15             | 15              | 12.0 | 1-1/8            | 28.6 | 27.9 | 38.0 | 41.0 | 24.4 |
| SS-VRE-22M-TB22M               | 22             | 22              | 18.3 | 1-3/8            | 34.9 | 34.5 | 44.6 | 50.0 | 26.0 |

| TUBE (INCH) TO STUB (INCH) |                |      |                 |      |      |      |                  |      |      |      |      |      |      |      |      |      |
|----------------------------|----------------|------|-----------------|------|------|------|------------------|------|------|------|------|------|------|------|------|------|
| Ordering Information       | A<br>Tube O.D. |      | A1<br>Tube O.D. |      | D    |      | W<br>Wrench Flat |      | N    |      | E    |      | N1   |      | I    |      |
|                            | inch           | mm   | inch            | mm   | inch | mm   | inch             | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   |
| SS-VRE-04-TB06             | 1/4            | 6.35 | 3/8             | 9.52 | .19  | 4.82 | 5/8              | 15.9 | .91  | 23.1 | 1.20 | 30.5 | 1.24 | 31.5 | .60  | 15.2 |
| SS-VRE-04-TB08             | 1/4            | 6.35 | 1/2             | 12.7 | .19  | 4.82 | 5/8              | 15.9 | .91  | 23.1 | 1.20 | 30.5 | 1.28 | 32.5 | .60  | 15.2 |

## Union Tee



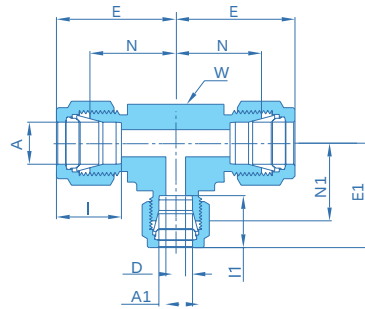
| TUBE (METRIC)        |                |      |                |      |                  |       |      |
|----------------------|----------------|------|----------------|------|------------------|-------|------|
| Ordering Information | A<br>Tube O.D. |      | D<br>Tube O.D. |      | W<br>Wrench Flat |       | I    |
|                      | mm             | mm   | mm             | mm   | mm               | mm    |      |
| SS-VUT-2M            | 2              | 1.7  | 3/8            | 9.5  | 15.7             | 22.3  | 12.9 |
| SS-VUT-3M            | 3              | 2.4  | 3/8            | 9.5  | 15.7             | 22.3  | 12.9 |
| SS-VUT-4M            | 4              | 2.4  | 1/2            | 12.7 | 18.8             | 25.4  | 13.7 |
| SS-VUT-6M            | 6              | 4.8  | 1/2            | 12.7 | 19.6             | 27.0  | 15.3 |
| SS-VUT-8M            | 8              | 6.4  | 5/8            | 15.9 | 22.4             | 29.9  | 16.2 |
| SS-VUT-10M           | 10             | 7.9  | 11/16          | 17.5 | 23.9             | 31.5  | 17.2 |
| SS-VUT-12M           | 12             | 9.5  | 13/16          | 20.6 | 25.9             | 36.0  | 22.8 |
| SS-VUT-14M           | 14             | 11.1 | 15/16          | 23.8 | 28.7             | 38.8  | 24.4 |
| SS-VUT-15M           | 15             | 11.9 | 15/16          | 23.8 | 28.7             | 38.8  | 24.4 |
| SS-VUT-16M           | 16             | 12.7 | 15/16          | 23.8 | 28.7             | 38.8  | 24.4 |
| SS-VUT-18M           | 18             | 15.1 | 1-1/6          | 34.9 | 29.7             | 39.8  | 24.4 |
| SS-VUT-20M           | 20             | 15.9 | 1-3/8          | 27.0 | 34.5             | 44.6  | 26.0 |
| SS-VUT-22M           | 22             | 18.3 | 1-3/8          | 34.9 | 34.5             | 44.6  | 26.0 |
| SS-VUT-25M           | 32             | 21.8 | 1-3/8          | 34.9 | 36.8             | 49.0  | 31.3 |
| SS-VUT-38M           | 38             | 33.7 | -              | 55.0 | 56.4             | 84.0  | 49.4 |
| SS-VUT-50M           | 50             | 45.2 | 2-3/4          | 69.9 | 68.9             | 106.0 | 65.0 |

| TUBE (INCH)          |                |       |                |       |                  |      |      |       |      |        |      |      |
|----------------------|----------------|-------|----------------|-------|------------------|------|------|-------|------|--------|------|------|
| Ordering Information | A<br>Tube O.D. |       | D<br>Tube O.D. |       | W<br>Wrench Flat |      | N    |       | E    |        | I    |      |
|                      | inch           | mm    | inch           | mm    | inch             | mm   | inch | mm    | inch | mm     | inch | mm   |
| SS-VUT-01            | 1/16           | 1.58  | .05            | 1.27  | 3/8              | 9.5  | .55  | 14.00 | .70  | 17.80  | .34  | 8.6  |
| SS-VUT-02            | 1/8            | 3.17  | .09            | 2.28  | 3/8              | 9.5  | .62  | 15.74 | .88  | 22.35  | .50  | 12.7 |
| SS-VUT-03            | 3/16           | 4.76  | .12            | 3.04  | 1/2              | 12.7 | .70  | 17.80 | .96  | 24.40  | .54  | 13.7 |
| SS-VUT-04            | 1/4            | 6.35  | .19            | 4.82  | 1/2              | 12.7 | .77  | 19.55 | 1.06 | 26.90  | .60  | 15.2 |
| SS-VUT-05            | 5/16           | 7.93  | .25            | 6.35  | 5/8              | 15.9 | .88  | 22.35 | 1.17 | 29.71  | .64  | 16.2 |
| SS-VUT-06            | 3/8            | 9.52  | .28            | 7.11  | 5/8              | 15.9 | .91  | 23.11 | 1.20 | 30.48  | .66  | 16.8 |
| SS-VUT-08            | 1/2            | 12.70 | .41            | 10.41 | 13/16            | 20.6 | 1.02 | 25.90 | 1.42 | 36.06  | .90  | 22.9 |
| SS-VUT-10            | 5/8            | 15.87 | .50            | 12.70 | 15/16            | 23.8 | 1.13 | 28.70 | 1.53 | 38.90  | .96  | 24.4 |
| SS-VUT-12            | 3/4            | 19.05 | .62            | 15.75 | 1-1/16           | 27.0 | 1.17 | 29.70 | 1.57 | 39.90  | .96  | 24.4 |
| SS-VUT-14            | 7/8            | 22.22 | .72            | 18.28 | 1-3/8            | 34.9 | 1.36 | 34.54 | 1.76 | 44.70  | 1.02 | 25.9 |
| SS-VUT-16            | 1              | 25.40 | .88            | 22.35 | 1-3/8            | 34.9 | 1.45 | 36.83 | 1.93 | 49.00  | 1.23 | 31.2 |
| SS-VUT-18            | 1-1/4          | 31.75 | 1.09           | 27.70 | 1-11/16          | 42.9 | 1.75 | 44.50 | 2.62 | 67.80  | 1.62 | 41.2 |
| SS-VUT-24            | 1-1/2          | 38.10 | 1.34           | 34.00 | 2                | 50.8 | 2.00 | 50.80 | 3.07 | 78.70  | 1.97 | 50.0 |
| SS-VUT-32            | 2              | 50.80 | 1.81           | 45.97 | 2-3/4            | 69.9 | 2.75 | 69.85 | 4.22 | 107.19 | 2.66 | 67.6 |

# Tube Fitting VRT Series



## Reducing Tee



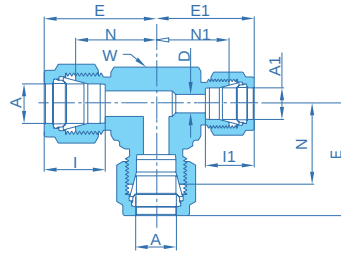
| TUBE (METRIC)        |                |    |                 |      |      |      |      |        |      |      |      |
|----------------------|----------------|----|-----------------|------|------|------|------|--------|------|------|------|
| Ordering Information | A<br>Tube O.D. |    | A1<br>Tube O.D. |      | E    |      | E1   |        | I    |      | N1   |
|                      | mm             | mm | mm              | mm   | mm   | mm   | mm   | mm     | mm   | mm   |      |
| SS-VRT-8M-T6M        | 8              | 6  | 29.5            | 29.0 | 16.2 | 15.3 | 4.8  | 5/8    | 15.9 | 22.4 | 22.4 |
| SS-VRT-10M-T6M       | 10             | 6  | 31.5            | 29.7 | 17.2 | 15.3 | 4.8  | 11/16  | 17.5 | 23.9 | 23.9 |
| SS-VRT-12M-T6M       | 12             | 6  | 36.0            | 31.8 | 22.8 | 15.3 | 4.8  | 13/16  | 20.6 | 25.9 | 24.4 |
| SS-VRT-12M-T10M      | 12             | 10 | 36.0            | 33.5 | 22.8 | 17.2 | 7.9  | 13/16  | 20.6 | 25.9 | 25.9 |
| SS-VRT-14M-T10M      | 14             | 10 | 38.8            | 36.3 | 24.4 | 17.2 | 7.9  | 15/16  | 23.8 | 28.7 | 28.7 |
| SS-VRT-18M-T12M      | 18             | 12 | 39.8            | 39.8 | 24.4 | 22.8 | 9.5  | 1-1/16 | 27.0 | 29.7 | 29.7 |
| SS-VRT-50M-T38M      | 50             | 38 | 106.0           | 96.2 | 65.0 | 49.4 | 33.7 | 2-3/4  | 69.9 | 68.9 | 68.6 |

| TUBE (INCH)          |                |       |                 |       |      |      |      |      |      |      |      |      |      |       |                  |      |      |      |      |      |
|----------------------|----------------|-------|-----------------|-------|------|------|------|------|------|------|------|------|------|-------|------------------|------|------|------|------|------|
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | E    |      | E1   |      | I    |      | I1   |      | D    |       | W<br>Wrench Flat |      | N    |      | N1   |      |
|                      | inch           | mm    | inch            | mm    | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm    | inch             | mm   | inch | mm   | inch | mm   |
| SS-VRT-04-T02        | 1/4            | 6.35  | 1/8             | 3.17  | 1.06 | 26.9 | 1.03 | 26.2 | .60  | 15.2 | .50  | 12.7 | .09  | 2.28  | 1/2              | 12.7 | .77  | 19.6 | .77  | 19.6 |
| SS-VRT-06-T04        | 3/8            | 9.52  | 1/4             | 6.35  | 1.20 | 30.5 | 1.14 | 29.0 | .66  | 16.8 | .60  | 15.2 | .19  | 4.82  | 5/8              | 15.9 | .91  | 23.1 | .85  | 21.6 |
| SS-VRT-08-T04        | 1/2            | 12.70 | 1/4             | 6.35  | 1.42 | 36.1 | 1.25 | 31.8 | .90  | 22.9 | .60  | 15.2 | .19  | 4.82  | 13/16            | 20.6 | 1.02 | 25.9 | .96  | 24.4 |
| SS-VRT-08-T06        | 1/2            | 12.70 | 3/8             | 9.52  | 1.42 | 36.1 | 1.31 | 33.3 | .90  | 22.9 | .66  | 16.8 | .28  | 7.11  | 13/16            | 20.6 | 1.02 | 25.9 | 1.02 | 25.9 |
| SS-VRT-10-T06        | 5/8            | 15.88 | 3/8             | 9.52  | 1.53 | 38.9 | 1.42 | 36.1 | .96  | 24.4 | .66  | 16.8 | .28  | 7.11  | 15/16            | 23.8 | 1.13 | 28.7 | 1.13 | 28.7 |
| SS-VRT-12-T04        | 3/4            | 19.05 | 1/4             | 6.35  | 1.57 | 39.9 | 1.46 | 37.1 | .96  | 24.4 | .60  | 15.2 | .19  | 4.82  | 1-1/16           | 27.0 | 1.17 | 29.7 | 1.17 | 29.7 |
| SS-VRT-12-T06        | 3/4            | 19.05 | 3/8             | 9.52  | 1.57 | 39.9 | 1.46 | 37.1 | .96  | 24.4 | .66  | 16.8 | .28  | 7.11  | 1-1/16           | 27.0 | 1.17 | 29.7 | 1.17 | 29.7 |
| SS-VRT-12-T08        | 3/4            | 19.05 | 1/2             | 12.70 | 1.57 | 39.9 | 1.57 | 39.9 | .96  | 24.4 | .90  | 22.9 | .41  | 10.41 | 1-1/16           | 27.0 | 1.17 | 29.7 | 1.17 | 29.7 |
| SS-VRT-16-T06        | 1              | 25.4  | 3/8             | 9.52  | 1.93 | 49.0 | 1.65 | 41.9 | 1.23 | 31.2 | .66  | 16.8 | .28  | 7.11  | 1-3/8            | 34.9 | 1.45 | 36.8 | 1.36 | 34.5 |
| SS-VRT-16-T08        | 1              | 25.4  | 1/2             | 12.70 | 1.93 | 49.0 | 1.76 | 44.7 | 1.23 | 31.2 | .90  | 22.9 | .41  | 10.41 | 1-3/8            | 34.9 | 1.45 | 36.8 | 1.36 | 34.5 |
| SS-VRT-16-T12        | 1              | 25.4  | 3/4             | 19.05 | 1.93 | 49.0 | 1.76 | 44.7 | 1.23 | 31.2 | .96  | 24.4 | .62  | 15.75 | 1-3/8            | 34.9 | 1.45 | 36.8 | 1.36 | 34.5 |
| SS-VRT-18-T16        | 1-1/4          | 31.75 | 1               | 25.40 | 2.67 | 67.8 | 2.17 | 55.1 | 1.62 | 41.2 | 1.23 | 31.2 | .88  | 22.35 | 1-11/16          | 42.9 | 1.75 | 44.5 | 1.69 | 42.9 |
| SS-VRT-24-T16        | 1-1/2          | 38.10 | 1               | 25.40 | 3.10 | 78.7 | 2.36 | 59.9 | 1.97 | 50.0 | 1.23 | 31.2 | .88  | 22.35 | 2                | 50.8 | 2.00 | 50.8 | 1.88 | 47.8 |

# Tube Fitting VRT Series

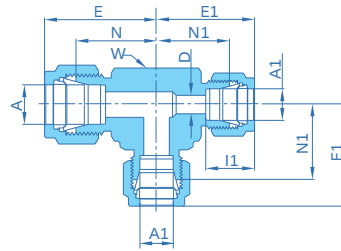


## Reducing Tee



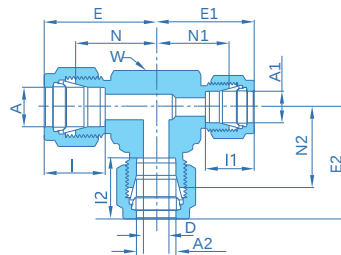
| TUBE (INCH)          |                |       |                 |      |      |      |      |      |      |      |      |      |      |      |                  |      |      |      |      |      |
|----------------------|----------------|-------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------------------|------|------|------|------|------|
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |      | E    |      | E1   |      | I    |      | I1   |      | D    |      | W<br>Wrench Flat |      | N    |      | N1   |      |
|                      | inch           | mm    | inch            | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch             | mm   | inch | mm   | inch | mm   |
| SS-VRT-04-02-T04     | 1/4            | 6.35  | 1/8             | 3.17 | 1.06 | 26.9 | 1.03 | 26.2 | .60  | 15.2 | .50  | 12.7 | .09  | 2.28 | 1/2              | 12.7 | .77  | 19.6 | .77  | 19.6 |
| SS-VRT-06-04-T06     | 3/8            | 9.52  | 1/4             | 6.35 | 1.20 | 30.5 | 1.14 | 29.0 | .66  | 16.8 | .60  | 15.2 | .19  | 4.82 | 5/8              | 15.9 | .91  | 23.1 | .85  | 21.6 |
| SS-VRT-08-04-T08     | 1/2            | 12.70 | 1/4             | 6.35 | 1.42 | 36.1 | 1.31 | 33.3 | .90  | 22.9 | .60  | 15.2 | .19  | 4.82 | 13/16            | 20.6 | 1.02 | 25.9 | 1.02 | 25.9 |
| SS-VRT-08-06-T08     | 1/2            | 12.70 | 3/8             | 9.52 | 1.42 | 36.1 | 1.31 | 33.3 | .90  | 22.9 | .66  | 16.8 | .28  | 7.11 | 13/16            | 20.6 | 1.02 | 25.9 | 1.02 | 25.9 |
| SS-VRT-12-06-T12     | 3/4            | 19.05 | 3/8             | 9.52 | 1.57 | 39.9 | 1.46 | 37.1 | .96  | 24.4 | .66  | 16.8 | .28  | 7.11 | 1-1/6            | 27.0 | 1.17 | 29.7 | 1.17 | 29.7 |

## Reducing Tee



| TUBE (INCH)          |                |       |                 |      |      |      |      |      |      |      |      |      |      |     |                  |      |      |      |      |      |
|----------------------|----------------|-------|-----------------|------|------|------|------|------|------|------|------|------|------|-----|------------------|------|------|------|------|------|
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |      | E    |      | E1   |      | I    |      | I1   |      | D    |     | W<br>Wrench Flat |      | N    |      | N1   |      |
|                      | inch           | mm    | inch            | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm  | inch             | mm   | inch | mm   | inch | mm   |
| SS-VRT-08-T06        | 1/2            | 12.70 | 3/8             | 9.52 | 1.42 | 36.1 | 1.31 | 33.3 | .90  | 22.9 | .66  | 16.8 | .28  | 7.1 | 13/16            | 20.6 | 1.02 | 25.9 | 1.02 | 25.9 |
| SS-VRT-10-T06        | 5/8            | 15.87 | 3/8             | 9.52 | 1.53 | 38.9 | 1.42 | 36.1 | .96  | 24.4 | .66  | 16.8 | .28  | 7.1 | 15/16            | 23.8 | 1.13 | 28.7 | 1.13 | 28.7 |
| SS-VRT-12-T06        | 3/4            | 19.05 | 3/8             | 9.52 | 1.57 | 39.9 | 1.46 | 37.1 | .96  | 24.4 | .66  | 16.8 | .28  | 7.1 | 1-1/16           | 27.0 | 1.17 | 29.7 | 1.17 | 29.7 |

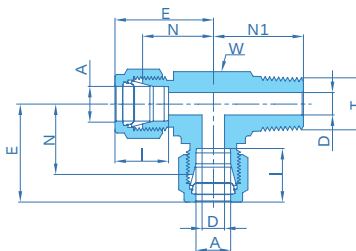
## Reducing Tee



| TUBE (INCH)          |                |       |                 |       |                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|----------------|-------|-----------------|-------|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | A2<br>Tube O.D. |      | E    |      | E1   |      | E2   |      | I    |      | I1   |      | I2   |      | D    |      |
|                      | inch           | mm    | inch            | mm    | inch            | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   |
| SS-VRT-10-08-T06     | 5/8            | 15.87 | 1/2             | 12.70 | 3/8             | 9.52 | 1.53 | 38.9 | 1.53 | 38.9 | 1.42 | 36.1 | .96  | 24.4 | .90  | 22.9 | .66  | 16.8 | .28  | 7.11 |
| SS-VRT-12-08-T06     | 3/4            | 19.05 | 1/2             | 12.70 | 3/8             | 9.52 | 1.57 | 39.9 | 1.57 | 39.9 | 1.46 | 37.1 | .96  | 24.4 | .90  | 22.9 | .66  | 16.8 | .28  | 7.11 |
| SS-VRT-16-12-T06     | 1              | 25.40 | 3/4             | 19.05 | 3/8             | 9.52 | 1.93 | 49.0 | 1.76 | 44.7 | 1.65 | 41.9 | 1.23 | 31.2 | .96  | 24.4 | .66  | 16.8 | .28  | 7.11 |

Dimensions are for reference only and are subject to change without prior notice

## Male Run Tee



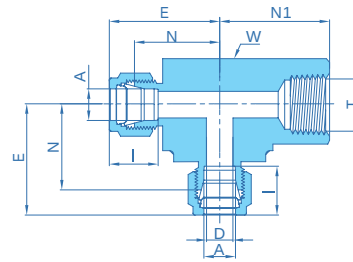
### TUBE (METRIC)

| Ordering Information | A<br>Tube O.D. | T<br>(NPT) | D    | W<br>Wrench Flat |      | N    | E    |      | N1   | I  |
|----------------------|----------------|------------|------|------------------|------|------|------|------|------|----|
|                      | mm             | inch       | mm   | inch             | mm   | mm   | mm   | mm   | mm   | mm |
| SS-VMRT-6M-M2        | 6              | 1/8        | 4.8  | 1/2              | 12.7 | 19.6 | 27.0 | 18.8 | 15.3 |    |
| SS-VMRT-6M-M4        | 6              | 1/4        | 4.8  | 1/2              | 12.7 | 19.6 | 27.0 | 23.4 | 15.3 |    |
| SS-VMRT-8M-M2        | 8              | 1/8        | 4.8  | 5/8              | 15.9 | 22.4 | 29.9 | 20.8 | 16.2 |    |
| SS-VMRT-8M-M4        | 8              | 1/4        | 6.4  | 5/8              | 15.9 | 22.4 | 29.9 | 25.4 | 16.2 |    |
| SS-VMRT-10M-M4       | 10             | 1/4        | 7.1  | 13/16            | 20.6 | 25.9 | 33.5 | 28.2 | 17.2 |    |
| SS-VMRT-12M-M4       | 12             | 1/4        | 7.1  | 13/16            | 20.6 | 25.9 | 36.0 | 28.2 | 22.8 |    |
| SS-VMRT-12M-M6       | 12             | 3/8        | 9.5  | 13/16            | 20.6 | 25.9 | 36.0 | 28.2 | 22.8 |    |
| SS-VMRT-12M-M8       | 12             | 1/2        | 9.5  | 13/16            | 20.6 | 25.9 | 36.0 | 33.0 | 22.8 |    |
| SS-VMRT-16M-M8       | 16             | 1/2        | 11.9 | 15/16            | 23.8 | 27.9 | 38.0 | 35.0 | 24.4 |    |

### TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | T<br>(NPT) | D    |       | W<br>Wrench Flat |      | N    |       | E    |       | N1   |       | I    |      |
|----------------------|----------------|-------|------------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
|                      | inch           | mm    | inch       | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VMRT-02-M2        | 1/8            | 3.17  | 1/8        | .09  | 2.28  | 7/16             | 11.1 | .67  | 17.02 | .93  | 23.62 | .70  | 17.78 | .50  | 12.7 |
| SS-VMRT-02-M4        | 1/8            | 3.17  | 1/4        | .09  | 2.28  | 1/2              | 12.7 | .71  | 18.03 | .97  | 24.64 | .92  | 23.40 | .50  | 12.7 |
| SS-VMRT-03-M2        | 3/16           | 4.76  | 1/8        | .12  | 3.05  | 7/16             | 11.1 | .70  | 17.78 | .96  | 24.38 | .70  | 17.78 | .54  | 13.7 |
| SS-VMRT-04-M2        | 1/4            | 6.35  | 1/8        | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | 1.06 | 26.92 | .74  | 18.8  | .60  | 15.2 |
| SS-VMRT-04-M4        | 1/4            | 6.35  | 1/4        | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | 1.06 | 26.92 | .92  | 23.37 | .60  | 15.2 |
| SS-VMRT-05-M2        | 5/16           | 7.93  | 1/8        | .19  | 4.82  | 5/8              | 15.9 | .88  | 22.35 | 1.17 | 29.71 | .82  | 20.83 | .64  | 16.2 |
| SS-VMRT-06-M4        | 3/8            | 9.52  | 1/4        | .28  | 7.11  | 5/8              | 15.9 | .91  | 23.11 | 1.20 | 30.48 | 1.00 | 25.40 | .66  | 16.8 |
| SS-VMRT-06-M6        | 3/8            | 9.52  | 3/8        | .28  | 7.11  | 13/16            | 20.6 | 1.02 | 25.91 | 1.31 | 33.27 | 1.11 | 28.19 | .66  | 16.8 |
| SS-VMRT-08-M6        | 1/2            | 12.70 | 3/8        | .38  | 9.5   | 13/16            | 20.6 | 1.02 | 25.91 | 1.42 | 36.07 | 1.11 | 28.19 | .90  | 22.9 |
| SS-VMRT-08-M8        | 1/2            | 12.70 | 1/2        | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.91 | 1.42 | 36.07 | 1.30 | 33.00 | .90  | 22.9 |
| SS-VMRT-10-M8        | 5/8            | 15.87 | 1/2        | .47  | 11.94 | 15/16            | 23.8 | 1.10 | 27.94 | 1.50 | 38.1  | 1.38 | 35.05 | .96  | 24.4 |
| SS-VMRT-12-M12       | 3/4            | 19.05 | 3/4        | .62  | 15.75 | 1-1/16           | 27.0 | 1.17 | 29.72 | 1.57 | 39.88 | 1.45 | 36.83 | .96  | 24.4 |

## Female Run Tee



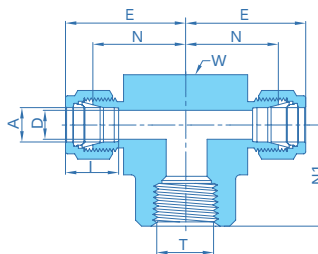
### TUBE (METRIC) TO FEMALE NPT THREAD

| Ordering Information | A<br>Tube O.D. |  | T<br>NPT | D    |  | W<br>Wrench Flat |      | N    |  | E    |  | N1   |  | I    |  |
|----------------------|----------------|--|----------|------|--|------------------|------|------|--|------|--|------|--|------|--|
|                      | mm             |  | inch     | mm   |  | inch             | mm   | mm   |  | mm   |  | mm   |  | mm   |  |
| SS-VFRT-6M-F2        | 6              |  | 1/8      | 4.8  |  | 5/8              | 15.9 | 19.6 |  | 27.0 |  | 19.0 |  | 15.3 |  |
| SS-VFRT-6M-F4        | 6              |  | 1/4      | 4.8  |  | 13/16            | 20.6 | 22.4 |  | 29.8 |  | 22.4 |  | 15.3 |  |
| SS-VFRT-8M-F2        | 8              |  | 1/8      | 6.4  |  | 5/8              | 15.9 | 22.4 |  | 29.9 |  | 22.4 |  | 16.2 |  |
| SS-VFRT-8M-F4        | 8              |  | 1/4      | 6.4  |  | 13/16            | 20.6 | 23.1 |  | 30.6 |  | 22.4 |  | 16.2 |  |
| SS-VFRT-10M-F4       | 10             |  | 1/4      | 7.9  |  | 13/16            | 20.6 | 25.9 |  | 33.5 |  | 22.4 |  | 17.2 |  |
| SS-VFRT-12M-F4       | 12             |  | 1/4      | 9.5  |  | 13/16            | 20.6 | 25.9 |  | 36.0 |  | 22.4 |  | 22.8 |  |
| SS-VFRT-12M-F6       | 12             |  | 3/8      | 9.5  |  | 15/16            | 23.8 | 25.9 |  | 36.0 |  | 22.4 |  | 22.8 |  |
| SS-VFRT-12M-F8       | 12             |  | 1/2      | 9.5  |  | 1-1/16           | 27.0 | 29.7 |  | 39.8 |  | 28.4 |  | 22.8 |  |
| SS-VFRT-16M-F8       | 16             |  | 1/2      | 12.7 |  | 1-1/16           | 27.0 | 29.7 |  | 39.8 |  | 28.4 |  | 24.4 |  |

### TUBE (INCH) TO FEMALE NPT THREAD

| Ordering Information | A<br>Tube O.D. |       | T<br>NPT | D    |       | W<br>Wrench Flat |      | N    |       | E    |       | N1   |       | I    |      |
|----------------------|----------------|-------|----------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
|                      | inch           | mm    | inch     | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VFRT-02-F2        | 1/8            | 3.17  | 1/8      | .09  | 2.28  | 5/8              | 15.9 | .71  | 18.00 | .97  | 24.63 | .75  | 19.05 | .50  | 12.7 |
| SS-VFRT-04-F2        | 1/4            | 6.35  | 1/8      | .19  | 4.82  | 5/8              | 15.9 | .77  | 19.55 | 1.06 | 26.92 | .75  | 19.05 | .60  | 15.2 |
| SS-VFRT-04-F4        | 1/4            | 6.35  | 1/4      | .19  | 4.82  | 13/16            | 20.6 | .88  | 22.35 | 1.17 | 29.71 | .88  | 22.35 | .60  | 15.2 |
| SS-VFRT-06-F4        | 3/8            | 9.52  | 1/4      | .28  | 7.11  | 13/16            | 20.6 | .94  | 23.87 | 1.23 | 31.24 | .88  | 22.35 | .66  | 16.8 |
| SS-VFRT-08-F6        | 1/2            | 12.70 | 3/8      | .41  | 10.41 | 15/16            | 23.8 | 1.02 | 25.9  | 1.42 | 36.07 | .88  | 22.35 | .90  | 22.9 |
| SS-VFRT-08-F8        | 1/2            | 12.70 | 1/2      | .41  | 10.41 | 1-1/16           | 27.0 | 1.17 | 29.72 | 1.57 | 39.88 | 1.12 | 28.45 | .90  | 22.9 |
| SS-VFRT-12-F12       | 3/4            | 19.05 | 3/4      | .62  | 15.75 | 1-3/8            | 34.9 | 1.36 | 34.54 | 1.76 | 44.70 | 1.25 | 31.75 | .96  | 24.4 |
| SS-VFRT-16-F12       | 1              | 25.4  | 3/4      | .88  | 22.35 | 1-3/8            | 34.9 | 1.45 | 36.83 | 1.93 | 49.02 | 1.25 | 31.75 | 1.23 | 31.2 |
| SS-VFRT-16-F16       | 1              | 25.4  | 1        | .88  | 22.35 | 1-11/16          | 42.9 | 1.63 | 41.40 | 2.11 | 53.59 | 1.50 | 38.10 | 1.23 | 31.2 |

## Female Branch Tee



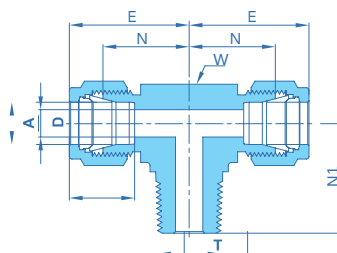
### TUBE (METRIC) TO FEMALE NPT THREAD

| Ordering Information | A<br>Tube O.D. |  | T<br>(NPT) |      | D      |  | W<br>Wrench Flat |  | N    |  | E    |  | N1   |  | I    |  |
|----------------------|----------------|--|------------|------|--------|--|------------------|--|------|--|------|--|------|--|------|--|
|                      | mm             |  | inch       | mm   | mm     |  | mm               |  | mm   |  | mm   |  | mm   |  | mm   |  |
| SS-VFBT-6M-F2        | 6              |  | 1/8        | 4.8  | 5/8    |  | 15.9             |  | 19.6 |  | 27.0 |  | 19.0 |  | 15.3 |  |
| SS-VFBT-6M-F4        | 6              |  | 1/4        | 4.8  | 13/16  |  | 20.6             |  | 22.4 |  | 29.8 |  | 22.4 |  | 15.3 |  |
| SS-VFBT-8M-F2        | 8              |  | 1/8        | 6.4  | 5/8    |  | 15.9             |  | 22.4 |  | 29.9 |  | 19.0 |  | 16.2 |  |
| SS-VFBT-8M-F4        | 8              |  | 1/4        | 6.4  | 13/16  |  | 20.6             |  | 23.1 |  | 30.6 |  | 22.4 |  | 16.2 |  |
| SS-VFBT-10M-F4       | 10             |  | 1/4        | 7.9  | 13/16  |  | 20.6             |  | 25.9 |  | 33.5 |  | 22.4 |  | 17.2 |  |
| SS-VFBT-10M-F6       | 10             |  | 3/8        | 7.9  | 15/16  |  | 23.8             |  | 25.9 |  | 33.5 |  | 22.4 |  | 17.2 |  |
| SS-VFBT-12M-F4       | 12             |  | 1/4        | 9.5  | 13/16  |  | 20.6             |  | 25.9 |  | 36.0 |  | 22.4 |  | 22.8 |  |
| SS-VFBT-12M-F6       | 12             |  | 3/8        | 9.5  | 15/16  |  | 23.8             |  | 25.9 |  | 36.0 |  | 22.4 |  | 22.8 |  |
| SS-VFBT-12M-F8       | 12             |  | 1/2        | 9.5  | 1 1/16 |  | 27.0             |  | 28.7 |  | 38.8 |  | 28.4 |  | 22.8 |  |
| SS-VFBT-16M-F8       | 16             |  | 1/2        | 12.7 | 1 1/16 |  | 27.0             |  | 28.7 |  | 38.8 |  | 28.4 |  | 24.4 |  |

### TUBE (INCH) TO FEMALE NPT THREAD

| Ordering Information | A<br>Tube O.D. |       | T<br>(NPT) | D    |       | W<br>Wrench Flat |      | N    |       | E    |       | N1   |       | I    |      |
|----------------------|----------------|-------|------------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
|                      | inch           | mm    |            | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VFBT-02-F2        | 1/8            | 3.17  | 1/8        | .09  | 2.28  | 5/8              | 15.9 | .70  | 18.00 | .97  | 24.64 | .75  | 19.05 | .50  | 12.7 |
| SS-VFBT-04-F2        | 1/4            | 6.35  | 1/8        | .19  | 4.82  | 5/8              | 15.9 | .77  | 19.56 | 1.06 | 26.96 | .75  | 19.05 | .60  | 15.2 |
| SS-VFBT-04-F4        | 1/4            | 6.35  | 1/4        | .19  | 4.82  | 13/16            | 20.6 | .88  | 22.35 | 1.17 | 29.71 | .88  | 22.35 | .60  | 15.2 |
| SS-VFBT-06-F4        | 3/8            | 9.52  | 1/4        | .28  | 7.11  | 13/16            | 20.6 | .94  | 23.88 | 1.23 | 31.24 | .88  | 22.35 | .66  | 16.8 |
| SS-VFBT-06-F6        | 3/8            | 9.52  | 3/8        | .28  | 7.11  | 15/16            | 23.8 | 1.02 | 25.90 | 1.31 | 33.27 | .88  | 22.35 | .66  | 16.8 |
| SS-VFBT-06-F8        | 3/8            | 9.52  | 1/2        | .28  | 7.11  | 1 1/16           | 27.0 | 1.13 | 28.70 | 1.42 | 36.07 | 1.12 | 28.45 | .66  | 16.8 |
| SS-VFBT-08-F4        | 1/2            | 12.70 | 1/4        | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.90 | 1.42 | 36.07 | .88  | 22.35 | .90  | 22.9 |
| SS-VFBT-08-F6        | 1/2            | 12.70 | 3/8        | .41  | 10.41 | 15/16            | 23.8 | 1.02 | 25.90 | 1.42 | 36.07 | .88  | 22.35 | .90  | 22.9 |
| SS-VFBT-08-F8        | 1/2            | 12.70 | 1/2        | .41  | 10.41 | 1-1/16           | 27.0 | 1.13 | 28.70 | 1.53 | 38.86 | 1.12 | 28.45 | .90  | 22.9 |
| SS-VFBT-10-F8        | 5/8            | 15.87 | 1/2        | .50  | 12.70 | 1-1/16           | 27.0 | 1.13 | 28.70 | 1.53 | 38.86 | 1.12 | 28.44 | .96  | 24.4 |
| SS-VFBT-12-F12       | 3/4            | 19.05 | 3/4        | .62  | 15.74 | 1-3/8            | 34.9 | 1.36 | 34.50 | 1.76 | 44.70 | 1.25 | 31.75 | .96  | 24.4 |
| SS-VFBT-16-F12       | 1              | 25.4  | 3/4        | .88  | 22.35 | 1-3/8            | 34.9 | 1.45 | 36.83 | 1.93 | 49.02 | 1.25 | 31.75 | 1.23 | 31.2 |
| SS-VFBT-16-F16       | 1              | 25.4  | 1          | .88  | 22.35 | 1-11/16          | 42.9 | 1.63 | 41.40 | 2.11 | 53.60 | 1.50 | 38.10 | 1.23 | 31.2 |

## Male Branch Tee



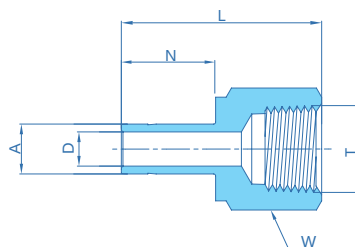
### TUBE (METRIC) TO MALE NPT THREAD

| Ordering Information | A<br>Tube O.D. |  | T<br>(NPT) | D    |  | W<br>Wrench Flat |  | N    |  | E    |  | N1   |  | I    |  |
|----------------------|----------------|--|------------|------|--|------------------|--|------|--|------|--|------|--|------|--|
|                      | mm             |  |            | mm   |  | mm               |  | mm   |  | mm   |  | mm   |  | mm   |  |
| SS-VMBT-6M-M2        | 6              |  | 1/8        | 4.8  |  | 12.7             |  | 19.6 |  | 27.0 |  | 18.8 |  | 15.3 |  |
| SS-VMBT-6M-M4        | 6              |  | 1/4        | 4.8  |  | 12.7             |  | 19.6 |  | 27.0 |  | 23.4 |  | 15.3 |  |
| SS-VMBT-8M-M2        | 8              |  | 1/8        | 4.8  |  | 15.9             |  | 22.4 |  | 29.9 |  | 20.8 |  | 16.2 |  |
| SS-VMBT-8M-M4        | 8              |  | 1/4        | 6.4  |  | 15.9             |  | 22.4 |  | 29.9 |  | 25.4 |  | 16.2 |  |
| SS-VMBT-10M-M4       | 10             |  | 1/4        | 7.1  |  | 20.6             |  | 25.9 |  | 33.5 |  | 28.2 |  | 17.2 |  |
| SS-VMBT-12M-M4       | 12             |  | 1/4        | 7.1  |  | 20.6             |  | 25.9 |  | 36.0 |  | 28.2 |  | 22.8 |  |
| SS-VMBT-12M-M6       | 12             |  | 3/8        | 9.5  |  | 20.6             |  | 25.9 |  | 36.0 |  | 28.2 |  | 22.8 |  |
| SS-VMBT-12M-M8       | 12             |  | 1/2        | 9.5  |  | 20.6             |  | 25.9 |  | 36.0 |  | 33.0 |  | 22.8 |  |
| SS-VMBT-16M-M8       | 16             |  | 1/2        | 11.9 |  | 23.8             |  | 28.7 |  | 38.8 |  | 35.8 |  | 24.4 |  |

### TUBE (INCH) TO MALE NPT THREAD

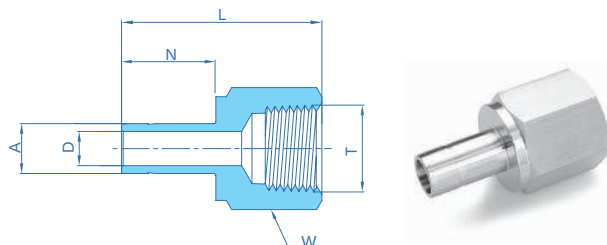
| Ordering Information | A<br>Tube O.D. |       | T<br>(NPT) | D    |       | W<br>Wrench Flat |      | N    |       | E    |       | N1   |       | I    |      |
|----------------------|----------------|-------|------------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
|                      | inch           | mm    |            | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VMBT-02-M2        | 1/8            | 3.17  | 1/8        | .09  | 2.28  | 7/16             | 11.1 | .67  | 17.02 | .93  | 23.62 | .70  | 17.78 | .50  | 12.7 |
| SS-VMBT-02-M4        | 1/8            | 3.17  | 1/4        | .09  | 2.28  | 1/2              | 12.7 | .71  | 18.03 | .97  | 24.64 | .92  | 23.37 | .50  | 12.7 |
| SS-VMBT-03-M2        | 3/16           | 4.76  | 1/8        | .12  | 3.04  | 7/16             | 11.1 | .70  | 17.78 | .96  | 24.38 | .70  | 17.78 | .54  | 13.7 |
| SS-VMBT-04-M2        | 1/4            | 6.35  | 1/8        | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | 1.06 | 26.92 | .74  | 18.80 | .60  | 15.2 |
| SS-VMBT-04-M4        | 1/4            | 6.35  | 1/4        | .19  | 4.82  | 1/2              | 12.7 | .77  | 19.56 | 1.06 | 26.92 | .92  | 23.37 | .60  | 15.2 |
| SS-VMBT-05-M2        | 5/16           | 7.93  | 1/8        | .19  | 4.82  | 5/8              | 15.9 | .88  | 22.35 | 1.17 | 29.71 | .82  | 20.83 | .64  | 16.2 |
| SS-VMBT-06-M4        | 3/8            | 9.52  | 1/4        | .28  | 7.11  | 5/8              | 15.9 | .91  | 23.11 | 1.20 | 30.48 | 1.00 | 25.40 | .66  | 16.8 |
| SS-VMBT-06-M6        | 3/8            | 9.52  | 3/8        | .28  | 7.11  | 13/16            | 20.6 | 1.02 | 25.91 | 1.31 | 33.27 | 1.11 | 28.19 | .66  | 16.8 |
| SS-VMBT-08-M6        | 1/2            | 12.70 | 3/8        | .38  | 9.65  | 13/16            | 20.6 | 1.02 | 25.91 | 1.42 | 36.07 | 1.11 | 28.19 | .90  | 22.9 |
| SS-VMBT-08-M8        | 1/2            | 12.70 | 1/2        | .41  | 10.41 | 13/16            | 20.6 | 1.02 | 25.91 | 1.42 | 36.07 | 1.30 | 33.02 | .90  | 22.9 |
| SS-VMBT-10-M8        | 5/8            | 15.87 | 1/2        | .47  | 11.94 | 15/16            | 23.8 | 1.13 | 28.7  | 1.53 | 38.86 | 1.41 | 35.81 | .96  | 24.4 |
| SS-VMBT-12-M12       | 3/4            | 19.05 | 3/4        | .62  | 15.75 | 1-1/16           | 27.0 | 1.17 | 29.72 | 1.57 | 39.88 | 1.45 | 36.83 | .96  | 24.4 |

## Female Adapter Tube To Pipe



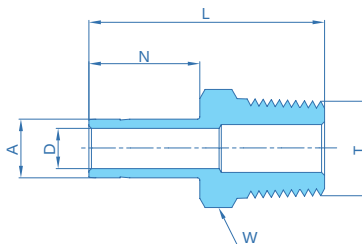
| TUBE (METRIC)        |                |            |      |                  |      |      |
|----------------------|----------------|------------|------|------------------|------|------|
| Ordering Information | A<br>Tube O.D. | T<br>(NPT) | D    | W<br>Wrench Flat | N    | L    |
|                      | mm             | inch       | mm   | mm               | mm   | mm   |
| SS-VFA-TB3M-F2       | 3              | 1/8        | 2.1  | 14               | 13.5 | 31.5 |
| SS-VFA-TB3M-F4       | 3              | 1/4        | 2.1  | 19               | 13.5 | 35.3 |
| SS-VFA-TB4M-F4       | 4              | 1/4        | 2.2  | 19               | 14.2 | 35.0 |
| SS-VFA-TB6M-F2       | 6              | 1/8        | 4.0  | 14               | 15.7 | 32.5 |
| SS-VFA-TB6M-F4       | 6              | 1/4        | 4.0  | 19               | 15.7 | 37.1 |
| SS-VFA-TB6M-F6       | 6              | 3/8        | 4.0  | 22               | 15.7 | 39.6 |
| SS-VFA-TB6M-F8       | 6              | 1/2        | 4.0  | 27               | 15.7 | 45.5 |
| SS-VFA-TB8M-F2       | 8              | 1/8        | 5.6  | 14               | 16.8 | 34.3 |
| SS-VFA-TB8M-F4       | 8              | 1/4        | 5.6  | 19               | 16.8 | 37.6 |
| SS-VFA-TB8M-F8       | 8              | 1/2        | 5.6  | 27               | 16.8 | 46.0 |
| SS-VFA-TB10M-F4      | 10             | 1/4        | 7.1  | 19               | 17.5 | 38.1 |
| SS-VFA-TB10M-F6      | 10             | 3/8        | 7.1  | 22               | 17.5 | 40.1 |
| SS-VFA-TB10M-F8      | 10             | 1/2        | 7.1  | 27               | 17.5 | 46.5 |
| SS-VFA-TB12M-F4      | 12             | 1/4        | 8.8  | 19               | 23.1 | 43.4 |
| SS-VFA-TB12M-F6      | 12             | 3/8        | 8.8  | 22               | 23.1 | 45.5 |
| SS-VFA-TB12M-F8      | 12             | 1/2        | 8.8  | 27               | 23.1 | 52.3 |
| SS-VFA-TB16M-F6      | 16             | 3/8        | 12.7 | 24               | 24.7 | 48.0 |
| SS-VFA-TB16M-F8      | 16             | 1/2        | 12.7 | 27               | 24.7 | 53.1 |
| SS-VFA-TB20M-F8      | 20             | 1/2        | 15.1 | 27               | 26.6 | 56.0 |
| SS-VFA-TB20M-F12     | 20             | 3/4        | 15.1 | 35               | 26.6 | 56.0 |

## Female Adapter Tube To Pipe



| TUBE (INCH)          |                |       |            |      |      |                  |      |       |      |      |
|----------------------|----------------|-------|------------|------|------|------------------|------|-------|------|------|
| Ordering Information | A<br>Tube O.D. |       | T<br>(NPT) | D    |      | W<br>Wrench Flat | N    |       | L    |      |
|                      | inch           | mm    |            | inch | mm   |                  | inch | mm    | inch | mm   |
| SS-VFA-TB02-F2       | 1/8            | 3.17  | 1/8        | .08  | 2.0  | 9/16             | .53  | 13.45 | 1.24 | 31.5 |
| SS-VFA-TB02-F4       | 1/8            | 3.17  | 1/4        | .08  | 2.0  | 3/4              | .53  | 13.45 | 1.39 | 35.3 |
| SS-VFA-TB03-F4       | 3/16           | 4.76  | 1/4        | .12  | 3.0  | 3/4              | .56  | 14.20 | 1.41 | 35.8 |
| SS-VFA-TB04-F2       | 1/4            | 6.35  | 1/8        | .17  | 4.2  | 9/16             | .62  | 15.75 | 1.30 | 33.0 |
| SS-VFA-TB04-F4       | 1/4            | 6.35  | 1/4        | .17  | 4.2  | 3/4              | .62  | 15.75 | 1.46 | 37.1 |
| SS-VFA-TB04-F6       | 1/4            | 6.35  | 3/8        | .17  | 4.2  | 7/8              | .62  | 15.75 | 1.55 | 39.4 |
| SS-VFA-TB04-F8       | 1/4            | 6.35  | 1/2        | .17  | 4.2  | 1 1/16           | .62  | 15.75 | 1.79 | 45.5 |
| SS-VFA-TB05-F4       | 5/16           | 7.93  | 1/4        | .22  | 5.6  | 3/4              | .66  | 16.75 | 1.48 | 37.6 |
| SS-VFA-TB06-F2       | 3/8            | 9.52  | 1/8        | .27  | 6.9  | 9/16             | .69  | 17.50 | 1.35 | 34.3 |
| SS-VFA-TB06-F4       | 3/8            | 9.52  | 1/4        | .27  | 6.9  | 3/4              | .69  | 17.50 | 1.50 | 38.1 |
| SS-VFA-TB06-F6       | 3/8            | 9.52  | 3/8        | .27  | 6.9  | 7/8              | .69  | 17.50 | 1.59 | 40.4 |
| SS-VFA-TB06-F8       | 3/8            | 9.52  | 1/2        | .27  | 6.9  | 1-1/16           | .69  | 17.50 | 1.84 | 46.7 |
| SS-VFA-TB08-F4       | 1/2            | 12.70 | 1/4        | .37  | 9.4  | 3/4              | .91  | 23.10 | 1.71 | 43.4 |
| SS-VFA-TB08-F6       | 1/2            | 12.70 | 3/8        | .37  | 9.4  | 7/8              | .91  | 23.10 | 1.79 | 45.5 |
| SS-VFA-TB08-F8       | 1/2            | 12.70 | 1/2        | .37  | 9.4  | 1-1/16           | .91  | 23.10 | 2.05 | 52.1 |
| SS-VFA-TB10-F8       | 5/8            | 15.87 | 1/2        | .50  | 11.9 | 1-1/16           | .97  | 24.65 | 2.09 | 53.1 |
| SS-VFA-TB12-F8       | 3/4            | 19.05 | 1/2        | .59  | 14.7 | 1-1/16           | .97  | 24.65 | 2.08 | 52.8 |
| SS-VFA-TB12-F12      | 3/4            | 19.05 | 3/4        | .59  | 14.7 | 1-5/16           | .97  | 24.65 | 2.16 | 54.9 |
| SS-VFA-TB12-F16      | 3/4            | 19.05 | 1          | .59  | 14.7 | 1-5/8            | .97  | 24.65 | 2.30 | 58.4 |
| SS-VFA-TB16-F12      | 1              | 25.40 | 3/4        | .80  | 20.3 | 1-5/16           | 1.23 | 31.20 | 2.39 | 60.7 |
| SS-VFA-TB16-F16      | 1              | 25.40 | 1          | .80  | 20.3 | 1-5/8            | 1.23 | 31.20 | 2.53 | 64.3 |
| SS-VFA-TB18-F18      | 1-1/4          | 31.75 | 1-1/4      | 1.02 | 25.9 | 2-1/8            | 1.73 | 43.82 | 3.06 | 77.7 |
| SS-VFA-TB24-F24      | 1-1/2          | 38.10 | 1-1/2      | 1.25 | 31.8 | 2-3/8            | 2.14 | 54.33 | 3.50 | 88.9 |

## Male Adapter Tube To Pipe

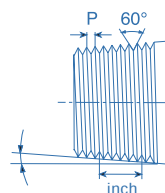


| TUBE (METRIC)        |                |            |      |                  |      |      |
|----------------------|----------------|------------|------|------------------|------|------|
| Ordering Information | A<br>Tube O.D. | T<br>(NPT) | D    | W<br>Wrench Flat | N    | L    |
|                      | mm             | inch       | mm   | mm               | mm   | mm   |
| SS-VMA-TB3M-M2       | 3              | 1/8        | 2.1  | 12               | 13.5 | 30.0 |
| SS-VMA-TB3M-M4       | 3              | 1/4        | 2.1  | 14               | 13.5 | 35.3 |
| SS-VMA-TB6M-M2       | 6              | 1/8        | 4.0  | 12               | 15.7 | 32.8 |
| SS-VMA-TB6M-M4       | 6              | 1/4        | 4.0  | 14               | 15.7 | 38.1 |
| SS-VMA-TB6M-M6       | 6              | 3/8        | 4.0  | 18               | 15.7 | 37.0 |
| SS-VMA-TB6M-M8       | 6              | 1/2        | 4.0  | 22               | 15.7 | 43.4 |
| SS-VMA-TB8M-M2       | 8              | 1/8        | 4.8  | 12               | 16.8 | 33.5 |
| SS-VMA-TB8M-M4       | 8              | 1/4        | 5.6  | 14               | 16.8 | 39.1 |
| SS-VMA-TB8M-M6       | 8              | 3/8        | 5.6  | 11/16 inch       | 16.8 | 37.8 |
| SS-VMA-TB8M-M8       | 8              | 1/2        | 5.6  | 22               | 16.8 | 43.0 |
| SS-VMA-TB10M-M4      | 10             | 1/4        | 7.1  | 9/16 inch        | 17.5 | 39.9 |
| SS-VMA-TB10M-M6      | 10             | 3/8        | 7.1  | 18               | 17.5 | 40.6 |
| SS-VMA-TB10M-M8      | 10             | 1/2        | 7.1  | 22               | 17.5 | 46.2 |
| SS-VMA-TB12M-M4      | 12             | 1/4        | 7.1  | 16               | 23.1 | 46.5 |
| SS-VMA-TB12M-M6      | 12             | 3/8        | 8.8  | 18               | 23.1 | 46.5 |
| SS-VMA-TB12M-M8      | 12             | 1/2        | 8.8  | 22               | 23.1 | 52.0 |
| SS-VMA-TB16M-M8      | 16             | 1/2        | 11.9 | 22               | 24.7 | 50.5 |
| SS-VMA-TB20M-M12     | 20             | 3/4        | 15.1 | 27               | 26.6 | 54.3 |

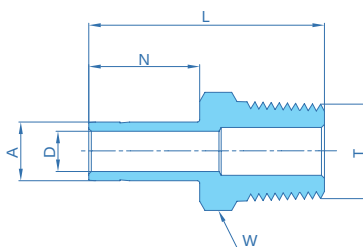
### Reference Specifications:

- 60° Thread angle
- Pitch measured in inches
- Truncation of root and crest is flat
- Taper angle 1° 47'

- American Standard Pipe Thread (NPT).
- NPT (National Pipe Tapered) is made according to the specifications outlined in ANSI B1.20.1.

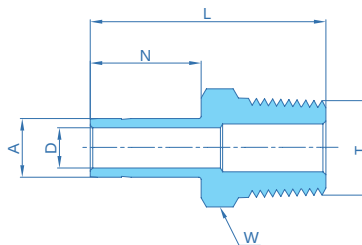


## Male Adapter Tube To Pipe



| TUBE (INCH)          |                |       |            |      |      |                  |      |       |      |      |
|----------------------|----------------|-------|------------|------|------|------------------|------|-------|------|------|
| Ordering Information | A<br>Tube O.D. |       | T<br>(NPT) | D    |      | W<br>Wrench Flat | N    |       | L    |      |
|                      | inch           | mm    |            | inch | mm   |                  | inch | mm    | inch | mm   |
| SS-VMA-TB02-M2       | 1/8            | 3.17  | 1/8        | .08  | 2.0  | 7/16             | .53  | 13.45 | 1.16 | 29.5 |
| SS-VMA-TB02-M4       | 1/8            | 3.17  | 1/4        | .08  | 2.0  | 9/16             | .53  | 13.45 | 1.37 | 34.8 |
| SS-VMA-TB03-M2       | 3/16           | 4.76  | 1/8        | .12  | 3.0  | 7/16             | .56  | 14.20 | 1.19 | 30.2 |
| SS-VMA-TB03-M4       | 3/16           | 4.76  | 1/4        | .12  | 3.0  | 9/16             | .56  | 14.20 | 1.40 | 35.6 |
| SS-VMA-TB04-M2       | 1/4            | 6.35  | 1/8        | .17  | 4.2  | 7/16             | .62  | 15.75 | 1.25 | 31.8 |
| SS-VMA-TB04-M4       | 1/4            | 6.35  | 1/4        | .17  | 4.2  | 9/16             | .62  | 15.75 | 1.46 | 37.1 |
| SS-VMA-TB04-M6       | 1/4            | 6.35  | 3/8        | .17  | 4.2  | 11/16            | .62  | 15.75 | 1.49 | 37.9 |
| SS-VMA-TB04-M8       | 1/4            | 6.35  | 1/2        | .17  | 4.2  | 7/8              | .62  | 15.75 | 1.71 | 43.4 |
| SS-VMA-TB05-M2       | 5/16           | 7.93  | 1/8        | .22  | 4.8  | 7/16             | .66  | 16.75 | 1.29 | 32.7 |
| SS-VMA-TB05-M4       | 5/16           | 7.93  | 1/4        | .22  | 5.6  | 9/16             | .66  | 16.75 | 1.50 | 38.1 |
| SS-VMA-TB06-M2       | 3/8            | 9.52  | 1/8        | .27  | 6.9  | 7/16             | .69  | 17.50 | 1.32 | 33.5 |
| SS-VMA-TB06-M4       | 3/8            | 9.52  | 1/4        | .27  | 6.9  | 9/16             | .69  | 17.50 | 1.53 | 38.9 |
| SS-VMA-TB06-M6       | 3/8            | 9.52  | 3/8        | .27  | 6.9  | 11/16            | .69  | 17.50 | 1.56 | 39.6 |
| SS-VMA-TB06-M8       | 3/8            | 9.52  | 1/2        | .27  | 6.9  | 7/8              | .69  | 17.50 | 1.78 | 45.2 |
| SS-VMA-TB08-M4       | 1/2            | 12.70 | 1/4        | .28  | 7.1  | 9/16             | .91  | 23.10 | 1.75 | 44.5 |
| SS-VMA-TB08-M6       | 1/2            | 12.70 | 3/8        | .37  | 9.4  | 11/16            | .91  | 23.10 | 1.78 | 45.2 |
| SS-VMA-TB08-M8       | 1/2            | 12.70 | 1/2        | .37  | 9.4  | 7/8              | .91  | 23.10 | 2.0  | 50.8 |
| SS-VMA-TB10-M6       | 5/8            | 15.87 | 3/8        | .37  | 9.5  | 11/16            | .97  | 24.65 | 1.81 | 47.6 |
| SS-VMA-TB10-M8       | 5/8            | 15.87 | 1/2        | .47  | 11.9 | 7/8              | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB10-M12      | 5/8            | 15.87 | 3/4        | .50  | 12.7 | 1-1/16           | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB12-M8       | 3/4            | 19.05 | 1/2        | .47  | 11.9 | 7/8              | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB12-M12      | 3/4            | 19.05 | 3/4        | .59  | 15.0 | 1-1/16           | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB12-M16      | 3/4            | 19.05 | 1          | .59  | 15.0 | 1-3/8            | .97  | 24.65 | 2.28 | 57.3 |
| SS-VMA-TB14-M12      | 7/8            | 22.22 | 3/4        | .60  | 15.9 | 1-1/16           | 1.05 | 26.60 | 2.09 | 54.3 |
| SS-VMA-TB16-M12      | 1              | 25.40 | 3/4        | .60  | 15.8 | 1-1/16           | 1.30 | 33.00 | 2.31 | 58.7 |
| SS-VMA-TB16-M16      | 1              | 25.40 | 1          | .80  | 20.3 | 1-3/8            | 1.30 | 33.00 | 2.60 | 66.0 |
| SS-VMA-TB18-M18      | 1-1/4          | 31.75 | 1-1/4      | 1.02 | 25.9 | 1-3/4            | 1.73 | 43.82 | 3.16 | 80.3 |
| SS-VMA-TB24-M24      | 1-1/2          | 38.10 | 1-1/2      | 1.25 | 31.6 | 2-1/8            | 2.14 | 54.33 | 3.72 | 94.5 |

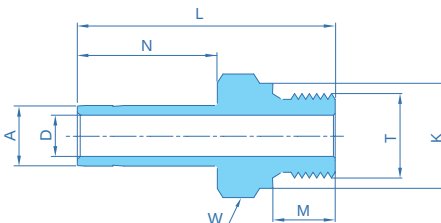
## Male Adapter Tube To Pipe



| TUBE (METRIC)        |                |            |      |                |      |      |
|----------------------|----------------|------------|------|----------------|------|------|
| Ordering Information | A<br>Tube O.D. | T<br>(ISO) | D    | W<br>Hex. Flat | N    | L    |
|                      | mm             | inch       | mm   | mm             | mm   | mm   |
| SS-VMA-TB6M-R2       | 6              | R-1/8      | 4.0  | 12             | 15.7 | 32.8 |
| SS-VMA-TB6M-R4       | 6              | R-1/4      | 4.0  | 14             | 15.7 | 38.1 |
| SS-VMA-TB6M-R8       | 6              | R-1/2      | 4.0  | 22             | 15.7 | 43.4 |
| SS-VMA-TB8M-R2       | 8              | R-1/8      | 4.8  | 12             | 16.8 | 33.5 |
| SS-VMA-TB8M-R4       | 8              | R-1/4      | 5.6  | 14             | 16.8 | 39.1 |
| SS-VMA-TB8M-R6       | 8              | R-3/8      | 5.6  | 11/16 inch     | 16.8 | 37.8 |
| SS-VMA-TB10M-R4      | 10             | R-1/4      | 7.1  | 14             | 17.5 | 39.9 |
| SS-VMA-TB10M-R6      | 10             | R-3/8      | 7.1  | 18             | 17.5 | 40.6 |
| SS-VMA-TB10M-R8      | 10             | R-1/2      | 7.1  | 22             | 17.5 | 46.2 |
| SS-VMA-TB12M-R4      | 12             | R-1/4      | 7.1  | 16             | 23.1 | 46.5 |
| SS-VMA-TB12M-R6      | 12             | R-3/8      | 8.8  | 18             | 23.1 | 46.2 |
| SS-VMA-TB12M-R8      | 12             | R-1/2      | 8.8  | 22             | 23.1 | 52.0 |
| SS-VMA-TB20M-R12     | 20             | R-3/4      | 14.7 | 27             | 26.6 | 54.3 |

| TUBE (INCH)          |                |       |            |      |      |                |      |       |      |      |
|----------------------|----------------|-------|------------|------|------|----------------|------|-------|------|------|
| Ordering Information | A<br>Tube O.D. |       | T<br>(ISO) | D    |      | W<br>Hex. Flat | N    |       | L    |      |
|                      | inch           | mm    | inch       | inch | mm   | inch           | inch | mm    | inch | mm   |
| SS-VMA-TB02-R2       | 1/8            | 3.17  | R-1/8      | .08  | 2.0  | 7/16           | .53  | 13.45 | 1.16 | 29.5 |
| SS-VMA-TB02-R4       | 1/8            | 3.17  | R-1/4      | .08  | 2.0  | 9/16           | .53  | 13.45 | 1.37 | 34.8 |
| SS-VMA-TB04-R2       | 1/4            | 6.35  | R-1/8      | .17  | 4.2  | 7/16           | .62  | 15.75 | 1.25 | 31.8 |
| SS-VMA-TB04-R4       | 1/4            | 6.35  | R-1/4      | .17  | 4.2  | 9/16           | .62  | 15.75 | 1.46 | 37.1 |
| SS-VMA-TB04-R6       | 1/4            | 6.35  | R-3/8      | .17  | 4.2  | 11/16          | .62  | 15.75 | 1.49 | 37.9 |
| SS-VMA-TB04-R8       | 1/4            | 6.35  | R-1/2      | .17  | 4.2  | 7/8            | .62  | 15.75 | 1.71 | 43.4 |
| SS-VMA-TB06-R4       | 3/8            | 9.52  | R-1/4      | .27  | 6.9  | 9/16           | .69  | 17.50 | 1.53 | 38.9 |
| SS-VMA-TB06-R6       | 3/8            | 9.52  | R-3/8      | .27  | 6.9  | 11/16          | .69  | 17.50 | 1.56 | 39.6 |
| SS-VMA-TB06-R8       | 3/8            | 9.52  | R-1/2      | .27  | 6.9  | 7/8            | .69  | 17.50 | 1.78 | 45.2 |
| SS-VMA-TB08-R4       | 1/2            | 12.70 | R-1/4      | .28  | 7.1  | 9/16           | .91  | 23.10 | 1.75 | 44.5 |
| SS-VMA-TB08-R6       | 1/2            | 12.70 | R-3/8      | .37  | 9.4  | 11/16          | .91  | 23.10 | 1.78 | 45.2 |
| SS-VMA-TB08-R8       | 1/2            | 12.70 | R-1/2      | .37  | 9.4  | 7/8            | .91  | 23.10 | 2.00 | 50.8 |
| SS-VMA-TB10-R8       | 5/8            | 15.87 | R-1/2      | .47  | 11.9 | 7/8            | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB12-R8       | 3/4            | 19.05 | R-1/2      | .47  | 11.9 | 7/8            | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB12-R12      | 3/4            | 19.05 | R-3/4      | .59  | 15.0 | 1-1/16         | .97  | 24.65 | 2.06 | 52.3 |
| SS-VMA-TB16-R16      | 1              | 25.40 | R-1        | .80  | 20.3 | 1-3/8          | 1.30 | 33.00 | 2.60 | 66.0 |

## Male Adapter Tube To Pipe

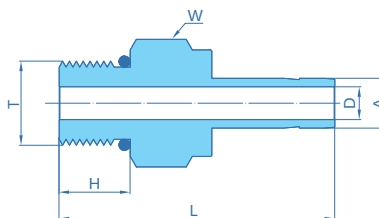


| TUBE (METRIC)        |                |      |            |      |      |      |      |                |
|----------------------|----------------|------|------------|------|------|------|------|----------------|
| Ordering Information | A<br>Tube O.D. |      | T<br>(ISO) | D    |      | K    |      | W<br>Hex. Flat |
|                      | mm             | inch |            | mm   | inch | mm   | inch |                |
| SS-VMA-TB6M-G2       | 6              |      | G-1/8      | 4.0  | 13.8 | 9/16 | 15.7 | 7.1            |
| SS-VMA-TB6M-G4       | 6              |      | G-1/4      | 4.0  | 18.0 | 19   | 15.7 | 11.2           |
| SS-VMA-TB8M-G4       | 8              |      | G-1/4      | 5.6  | 18.0 | 19   | 16.8 | 11.2           |
| SS-VMA-TB10M-G4      | 10             |      | G-1/4      | 5.9  | 18.0 | 19   | 17.5 | 11.2           |
| SS-VMA-TB10M-G6      | 10             |      | G-3/8      | 7.1  | 21.8 | 22   | 17.5 | 11.2           |
| SS-VMA-TB10M-G8      | 10             |      | G-1/2      | 7.1  | 26.0 | 27   | 17.5 | 14.2           |
| SS-VMA-TB12M-G4      | 12             |      | G-1/4      | 5.8  | 18.0 | 19   | 23.1 | 11.2           |
| SS-VMA-TB12M-G6      | 12             |      | G-3/8      | 7.9  | 21.8 | 22   | 23.1 | 11.2           |
| SS-VMA-TB12M-G8      | 12             |      | G-1/2      | 8.8  | 26.0 | 27   | 23.1 | 14.2           |
| SS-VMA-TB18M-G8      | 18             |      | G-1/2      | 11.9 | 26.0 | 27   | 24.6 | 14.2           |
| SS-VMA-TB18M-G12     | 18             |      | G-3/4      | 13.9 | 32.0 | 35   | 24.6 | 15.7           |
| SS-VMA-TB38M-G24     | 38             |      | G-1-1/2    | 31.6 | 54.7 | 55   | 52.8 | 22.1           |

| TUBE (INCH)          |                |       |            |      |      |      |      |                |      |       |      |      |      |
|----------------------|----------------|-------|------------|------|------|------|------|----------------|------|-------|------|------|------|
| Ordering Information | A<br>Tube O.D. |       | T<br>(ISO) | D    |      | K    |      | W<br>Hex. Flat | N    |       | M    |      | L    |
|                      | inch           | mm    |            | inch | mm   | inch | mm   |                | inch | mm    | inch | mm   |      |
| SS-VMA-TB02-G2       | 1/8            | 3.17  | G-1/8      | .08  | 2.0  | .54  | 13.8 | 9/16           | .53  | 13.45 | .28  | 7.1  | 1.22 |
| SS-VMA-TB02-G4       | 1/8            | 6.35  | G-1/4      | .08  | 2.0  | .71  | 18.0 | 3/4            | .53  | 13.45 | .44  | 11.2 | 1.41 |
| SS-VMA-TB04-G2       | 1/4            | 3.17  | G-1/8      | .16  | 4.0  | .54  | 13.8 | 9/16           | .62  | 15.75 | .28  | 7.1  | 1.20 |
| SS-VMA-TB04-G4       | 1/4            | 6.35  | G-1/4      | .17  | 4.2  | .71  | 18.0 | 3/4            | .62  | 15.75 | .44  | 11.2 | 1.42 |
| SS-VMA-TB06-G4       | 3/8            | 6.35  | G-1/4      | .23  | 5.8  | .71  | 18.0 | 3/4            | .69  | 17.50 | .44  | 11.2 | 1.57 |
| SS-VMA-TB06-G6       | 3/8            | 9.52  | G-3/8      | .27  | 6.9  | .86  | 21.8 | 7/8            | .69  | 17.50 | .44  | 11.2 | 1.60 |
| SS-VMA-TB08-G4       | 1/2            | 6.35  | G-1/4      | .23  | 5.8  | .71  | 18.0 | 3/4            | .91  | 23.10 | .44  | 11.2 | 1.85 |
| SS-VMA-TB08-G6       | 1/2            | 9.52  | G-3/8      | .31  | 7.9  | .86  | 21.8 | 7/8            | .91  | 23.10 | .44  | 11.2 | 1.88 |
| SS-VMA-TB08-G8       | 1/2            | 12.70 | G-1/2      | .37  | 9.4  | 1.02 | 26.0 | 1-1/16         | .91  | 23.10 | .56  | 14.2 | 1.96 |
| SS-VMA-TB12-G12      | 3/4            | 19.05 | G-3/4      | .59  | 15.0 | 1.26 | 32.0 | 1-5/16         | .97  | 24.65 | .62  | 15.7 | 2.16 |
| SS-VMA-TB16-G16      | 1              | 25.40 | G-1        | .78  | 19.8 | 1.54 | 39.0 | 1-5/8          | 1.23 | 31.20 | .72  | 18.3 | 2.59 |

\* When ordering code SS-VMA-\*\*-AG\*\*, "AG" stands for combined gaskets.

## Male Adapter

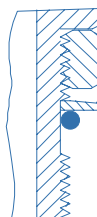


| TUBE (INCH)          |                |       |                         |      |       |       |      |      |       |      |       |
|----------------------|----------------|-------|-------------------------|------|-------|-------|------|------|-------|------|-------|
| Ordering Information | A<br>Tube O.D. |       | T<br>Straight Thread UN | D    |       | W     |      | H    |       | L    |       |
|                      | inch           | mm    |                         | inch | mm    | inch  | mm   | inch | mm    | inch | mm    |
| SS-VMA-TB02-A2       | 1/8            | 3.18  | 5/16-24                 | .08  | 2.03  | 7/16  | 11.1 | .30  | 7.62  | 1.20 | 30.48 |
| SS-VMA-TB04-A4       | 1/4            | 6.35  | 7/16-20                 | .17  | 4.20  | 9/16  | 14.3 | .36  | 9.14  | 1.39 | 35.3  |
| SS-VMA-TB04-A6       | 1/4            | 6.35  | 9/16-18                 | .17  | 4.20  | 11/16 | 17.5 | .39  | 9.90  | 1.42 | 36.07 |
| SS-VMA-TB06-A4       | 3/8            | 9.52  | 7/16-20                 | .20  | 5.10  | 9/16  | 14.3 | .36  | 9.14  | 1.46 | 37.08 |
| SS-VMA-TB06-A6       | 3/8            | 9.52  | 9/16-18                 | .27  | 6.85  | 11/16 | 17.5 | .39  | 9.90  | 1.52 | 38.61 |
| SS-VMA-TB06-A8       | 3/8            | 9.52  | 3/4-16                  | .27  | 6.85  | 7/8   | 22.2 | .44  | 11.17 | 1.60 | 40.64 |
| SS-VMA-TB08-A6       | 1/2            | 12.7  | 9/16-18                 | .28  | 7.11  | 11/16 | 17.5 | .39  | 9.90  | 1.74 | 44.20 |
| SS-VMA-TB08-A8       | 1/2            | 12.7  | 3/4-16                  | .37  | 9.40  | 7/8   | 22.2 | .44  | 11.17 | 1.82 | 46.23 |
| SS-VMA-TB10-A5       | 5/8            | 15.87 | 7/8-14                  | .47  | 11.94 | 1     | 25.4 | .50  | 12.70 | 1.94 | 49.28 |
| SS-VMA-TB12-A12      | 3/4            | 19.05 | 1-1/16-12               | .59  | 15.00 | 1-1/4 | 31.8 | .59  | 14.98 | 2.10 | 53.34 |
| SS-VMA-TB16-A16      | 1              | 25.40 | 1 5/16-12               | .80  | 20.32 | 1-1/2 | 38.1 | .59  | 14.98 | 2.41 | 61.21 |
| SS-VMA-TB18-A18      | 1-1/4          | 31.75 | 1 5/8-12                | 1.02 | 26.00 | 1-7/8 | 47.6 | .59  | 15.10 | 2.81 | 71.37 |
| SS-VMA-TB24-A24      | 1-1/2          | 38.10 | 1 7/8-12                | 1.25 | 31.60 | 2-1/8 | 54.0 | .59  | 15.10 | 3.28 | 83.31 |

## Installation Instructions :

**Figure 1**

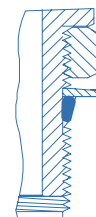
Locking backed off



Lubricate the O-ring by inserting it into the groove adjacent to the face of the metal back-up washer which is assembled at the extreme end of the groove as shown in. (Figure 1)

**Figure 2**

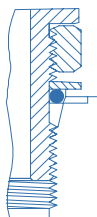
Fitting install hand tight



Install the fitting into the S.A.E. straight thread boss, figure 2, until the metal back-up washer contacts the face of the boss as shown in. (Figure 2)

**Figure 3**

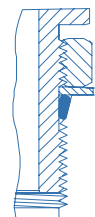
Fittings backed-off for alignment (turn maximum 1)



Position the fitting by turning it counter clockwise up to a maximum of one. (see Figure 3)

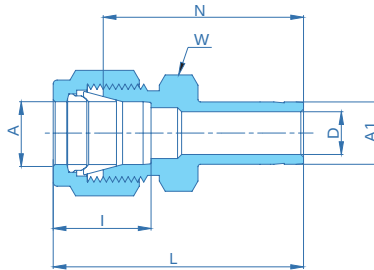
**Figure 4**

Fittings locknut tightly to appropriate torque



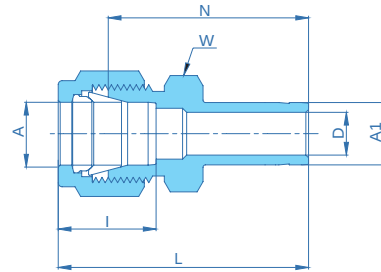
Holding the pad of the fitting with a spanner, tighten the locknut and washer against the face as shown in, (Figure 4)

## Reducer



| TUBE (METRIC) TO STUB METRIC |                |                 |      |                |      |      |      |
|------------------------------|----------------|-----------------|------|----------------|------|------|------|
| Ordering Information         | A<br>Tube O.D. | A1<br>Tube O.D. | D    | W<br>Hex. Flat | N    | L    | I    |
|                              | mm             | mm              | mm   | mm             | mm   | mm   | mm   |
| SS-VTO-2M-TB3M               | 2              | 3               | 1.7  | 12             | 26.9 | 33.5 | 12.9 |
| SS-VTO-3M-TB4M               | 3              | 4               | 2.2  | 12             | 28.4 | 35.0 | 12.9 |
| SS-VTO-3M-TB6M               | 3              | 6               | 2.4  | 12             | 29.5 | 36.1 | 12.9 |
| SS-VTO-3M-TB10M              | 3              | 10              | 2.4  | 14             | 31.8 | 38.4 | 12.9 |
| SS-VTO-4M-TB6M               | 4              | 6               | 2.4  | 12             | 30.5 | 37.1 | 13.7 |
| SS-VTO-6M-TB3M               | 6              | 3               | 2.1  | 14             | 29.5 | 36.9 | 15.3 |
| SS-VTO-6M-TB8M               | 6              | 8               | 4.8  | 14             | 32.5 | 39.9 | 15.3 |
| SS-VTO-6M-TB10M              | 6              | 10              | 4.8  | 14             | 33.3 | 40.7 | 15.3 |
| SS-VTO-6M-TB12M              | 6              | 12              | 4.8  | 14             | 38.9 | 46.3 | 15.3 |
| SS-VTO-6M-TB18M              | 6              | 18              | 4.8  | 22             | 42.2 | 49.6 | 15.3 |
| SS-VTO-8M-TB6M               | 8              | 6               | 4.0  | 15             | 32.8 | 40.3 | 16.2 |
| SS-VTO-8M-TB10M              | 8              | 10              | 6.4  | 15             | 34.5 | 42.0 | 16.2 |
| SS-VTO-8M-TB12M              | 8              | 12              | 6.4  | 15             | 40.1 | 47.6 | 16.2 |
| SS-VTO-10M-TB6M              | 10             | 6               | 4.0  | 18             | 34.8 | 42.4 | 17.2 |
| SS-VTO-10M-TB8M              | 10             | 8               | 5.6  | 18             | 35.8 | 43.4 | 17.2 |
| SS-VTO-10M-TB12M             | 10             | 12              | 7.9  | 18             | 42.2 | 49.8 | 17.2 |
| SS-VTO-10M-TB15M             | 10             | 15              | 7.9  | 18             | 43.7 | 51.3 | 17.2 |
| SS-VTO-10M-TB18M             | 10             | 18              | 7.9  | 22             | 43.7 | 51.3 | 17.2 |
| SS-VTO-12M-TB6M              | 12             | 6               | 4.0  | 22             | 34.8 | 44.9 | 22.8 |
| SS-VTO-12M-TB8M              | 12             | 8               | 5.6  | 22             | 35.8 | 45.9 | 22.8 |
| SS-VTO-12M-TB10M             | 12             | 10              | 7.1  | 22             | 36.6 | 46.7 | 22.8 |
| SS-VTO-12M-TB16M             | 12             | 16              | 9.5  | 22             | 43.7 | 53.8 | 22.8 |
| SS-VTO-12M-TB18M             | 12             | 18              | 9.5  | 22             | 43.7 | 53.8 | 22.8 |
| SS-VTO-12M-TB20M             | 12             | 20              | 9.5  | 22             | 46.0 | 56.1 | 22.8 |
| SS-VTO-12M-TB22M             | 12             | 22              | 9.5  | 24             | 46.0 | 56.1 | 22.8 |
| SS-VTO-12M-TB25M             | 12             | 25              | 9.5  | 27             | 52.3 | 62.4 | 22.8 |
| SS-VTO-16M-TB12M             | 16             | 12              | 8.8  | 24             | 42.9 | 53.0 | 24.4 |
| SS-VTO-18M-TB12M             | 18             | 12              | 8.8  | 27             | 44.5 | 54.6 | 24.4 |
| SS-VTO-18M-TB16M             | 18             | 16              | 12.7 | 27             | 46.0 | 56.1 | 24.4 |
| SS-VTO-18M-TB20M             | 18             | 20              | 15.1 | 27             | 47.5 | 57.6 | 24.4 |
| SS-VTO-18M-TB22M             | 18             | 22              | 15.1 | 27             | 47.5 | 57.6 | 24.4 |
| SS-VTO-18M-TB25M             | 18             | 25              | 15.1 | 27             | 52.3 | 62.4 | 24.4 |
| SS-VTO-20M-TB16M             | 20             | 16              | 12.7 | 30             | 47.8 | 57.9 | 26.0 |
| SS-VTO-20M-TB18M             | 20             | 18              | 13.9 | 30             | 47.8 | 57.9 | 26.0 |
| SS-VTO-20M-TB22M             | 20             | 22              | 15.9 | 30             | 49.3 | 59.4 | 26.0 |
| SS-VTO-20M-TB25M             | 20             | 25              | 15.9 | 30             | 54.1 | 64.2 | 26.0 |
| SS-VTO-22M-TB18M             | 22             | 18              | 13.9 | 30             | 47.8 | 57.9 | 26.0 |
| SS-VTO-22M-TB20M             | 22             | 20              | 15.1 | 30             | 49.3 | 59.4 | 26.0 |
| SS-VTO-22M-TB25M             | 22             | 25              | 18.3 | 30             | 54.1 | 64.2 | 26.0 |
| SS-VTO-25M-TB18M             | 25             | 18              | 13.9 | 35             | 50.8 | 63.1 | 31.3 |
| SS-VTO-25M-TB20M             | 25             | 20              | 15.1 | 35             | 52.3 | 64.6 | 31.3 |

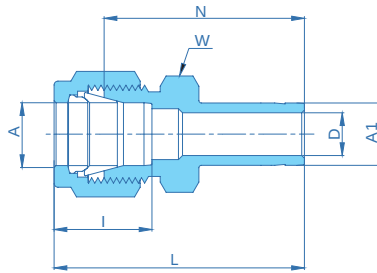
## Reducer



**TUBE (INCH) TO STUB (INCH)**

| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | D    |       | W<br>Hex. Flat | N    |       | L    |       | I    |      |
|----------------------|----------------|-------|-----------------|-------|------|-------|----------------|------|-------|------|-------|------|------|
|                      | inch           | mm    | inch            | mm    | inch | mm    | inch           | inch | mm    | inch | mm    | inch | mm   |
| SS-VTO-01-TB02       | 1/16           | 1.58  | 1/8             | 3.17  | .05  | 1.27  | 5/16           | 1.00 | 25.40 | 1.15 | 29.21 | .34  | 8.6  |
| SS-VTO-01-TB04       | 1/16           | 1.58  | 1/4             | 6.35  | .05  | 1.27  | 5/16           | 1.09 | 27.68 | 1.24 | 31.50 | .34  | 8.6  |
| SS-VTO-02-TB01       | 1/8            | 3.17  | 1/16            | 1.58  | .03  | .76   | 7/16           | .88  | 22.35 | 1.14 | 28.96 | .50  | 12.7 |
| SS-VTO-02-TB02       | 1/8            | 3.17  | 1/8             | 3.17  | .08  | 2.03  | 7/16           | 1.06 | 26.92 | 1.32 | 33.52 | .50  | 12.7 |
| SS-VTO-02-TB03       | 1/8            | 3.17  | 3/16            | 4.76  | .09  | 2.28  | 7/16           | 1.09 | 27.68 | 1.35 | 34.29 | .50  | 12.7 |
| SS-VTO-02-TB04       | 1/8            | 3.17  | 1/4             | 6.35  | .09  | 2.28  | 7/16           | 1.16 | 29.46 | 1.42 | 36.06 | .50  | 12.7 |
| SS-VTO-02-TB06       | 1/8            | 3.17  | 3/8             | 9.52  | .09  | 2.28  | 7/16           | 1.22 | 30.98 | 1.48 | 37.59 | .50  | 12.7 |
| SS-VTO-02-TB08       | 1/8            | 3.17  | 1/2             | 12.70 | .09  | 2.28  | 9/16           | 1.48 | 37.59 | 1.74 | 44.20 | .50  | 12.7 |
| SS-VTO-03-TB02       | 3/16           | 4.76  | 1/8             | 3.17  | .08  | 2.03  | 7/16           | 1.11 | 28.19 | 1.37 | 34.80 | .54  | 13.7 |
| SS-VTO-03-TB04       | 3/16           | 4.76  | 1/4             | 6.35  | .12  | 3.04  | 7/16           | 1.20 | 30.48 | 1.46 | 37.08 | .54  | 13.7 |
| SS-VTO-04-TB02       | 1/4            | 6.35  | 1/8             | 3.17  | .08  | 2.03  | 1/2            | 1.16 | 29.46 | 1.45 | 36.83 | .60  | 15.2 |
| SS-VTO-04-TB03       | 1/4            | 6.35  | 3/16            | 4.76  | .12  | 3.04  | 1/2            | 1.19 | 30.22 | 1.48 | 37.59 | .60  | 15.2 |
| SS-VTO-04-TB04       | 1/4            | 6.35  | 1/4             | 6.35  | .17  | 4.20  | 1/2            | 1.25 | 31.75 | 1.54 | 39.11 | .60  | 15.2 |
| SS-VTO-04-TB05       | 1/4            | 6.35  | 5/16            | 7.93  | .19  | 4.82  | 1/2            | 1.28 | 32.51 | 1.57 | 39.87 | .60  | 15.2 |
| SS-VTO-04-TB06       | 1/4            | 6.35  | 3/8             | 9.52  | .19  | 4.82  | 1/2            | 1.31 | 33.27 | 1.60 | 40.64 | .60  | 15.2 |
| SS-VTO-04-TB08       | 1/4            | 6.35  | 1/2             | 12.70 | .19  | 4.82  | 9/16           | 1.53 | 38.86 | 1.82 | 46.22 | .60  | 15.2 |
| SS-VTO-04-TB10       | 1/4            | 6.35  | 5/8             | 15.87 | .19  | 4.82  | 11/16          | 1.60 | 40.64 | 1.89 | 48.00 | .60  | 15.2 |
| SS-VTO-04-TB12       | 1/4            | 6.35  | 3/4             | 19.05 | .19  | 4.82  | 13/16          | 1.59 | 40.39 | 1.88 | 47.75 | .60  | 15.2 |
| SS-VTO-05-TB06       | 5/16           | 7.93  | 3/8             | 9.52  | .25  | 6.35  | 9/16           | 1.36 | 34.54 | 1.65 | 41.91 | .64  | 16.2 |
| SS-VTO-05-TB08       | 5/16           | 7.93  | 1/2             | 12.70 | .25  | 6.35  | 9/16           | 1.58 | 40.13 | 1.87 | 47.49 | .64  | 16.2 |
| SS-VTO-06-TB04       | 3/8            | 9.52  | 1/4             | 6.35  | .17  | 4.20  | 5/8            | 1.34 | 34.03 | 1.63 | 41.40 | .66  | 16.8 |
| SS-VTO-06-TB06       | 3/8            | 9.52  | 3/8             | 9.52  | .27  | 6.85  | 5/8            | 1.41 | 35.81 | 1.70 | 43.18 | .66  | 16.8 |
| SS-VTO-06-TB08       | 3/8            | 9.52  | 1/2             | 12.70 | .28  | 7.11  | 5/8            | 1.62 | 41.14 | 1.91 | 48.51 | .66  | 16.8 |
| SS-VTO-06-TB10       | 3/8            | 9.52  | 5/8             | 15.87 | .28  | 7.11  | 11/16          | 1.69 | 42.92 | 1.98 | 50.29 | .66  | 16.8 |
| SS-VTO-06-TB12       | 3/8            | 9.52  | 3/4             | 19.05 | .28  | 7.11  | 13/16          | 1.69 | 42.92 | 1.98 | 50.29 | .66  | 16.8 |
| SS-VTO-08-TB04       | 1/2            | 12.70 | 1/4             | 6.35  | .17  | 4.20  | 13/16          | 1.37 | 34.80 | 1.77 | 44.96 | .90  | 22.9 |
| SS-VTO-08-TB06       | 1/2            | 12.70 | 3/8             | 9.52  | .27  | 6.85  | 13/16          | 1.44 | 36.58 | 1.84 | 46.74 | .90  | 22.9 |
| SS-VTO-08-TB08       | 1/2            | 12.70 | 1/2             | 12.70 | .37  | 9.40  | 13/16          | 1.66 | 42.16 | 2.06 | 52.32 | .90  | 22.9 |
| SS-VTO-08-TB10       | 1/2            | 12.70 | 5/8             | 15.87 | .41  | 10.41 | 13/16          | 1.72 | 43.68 | 2.12 | 53.84 | .90  | 22.9 |
| SS-VTO-08-TB12       | 1/2            | 12.70 | 3/4             | 19.05 | .41  | 10.41 | 13/16          | 1.72 | 43.68 | 2.12 | 53.84 | .90  | 22.9 |
| SS-VTO-08-TB16       | 1/2            | 12.70 | 1               | 25.40 | .41  | 10.41 | 1-1/6          | 1.97 | 50.03 | 2.37 | 60.19 | .90  | 22.9 |
| SS-VTO-10-TB12       | 5/8            | 15.87 | 3/4             | 19.05 | .50  | 12.70 | 15/16          | 1.75 | 44.45 | 2.15 | 54.61 | .96  | 24.4 |
| SS-VTO-10-TB14       | 5/8            | 15.87 | 7/8             | 22.22 | .50  | 12.70 | 15/16          | 1.81 | 45.97 | 2.21 | 56.13 | .96  | 24.4 |
| SS-VTO-10-TB16       | 5/8            | 15.87 | 1               | 25.40 | .50  | 12.70 | 1-1/16         | 2.00 | 50.80 | 2.40 | 60.96 | .96  | 24.4 |
| SS-VTO-12-TB08       | 3/4            | 19.05 | 1/2             | 12.70 | .37  | 9.40  | 1-1/16         | 1.75 | 44.45 | 2.15 | 54.61 | .96  | 24.4 |
| SS-VTO-12-TB16       | 3/4            | 19.05 | 1               | 25.40 | .62  | 15.75 | 1-1/16         | 2.06 | 52.32 | 2.46 | 62.48 | .96  | 24.4 |
| SS-VTO-16-TB18       | 1              | 25.40 | 1-1/4           | 31.75 | .88  | 22.35 | 1-3/8          | 2.69 | 68.33 | 3.17 | 80.52 | 1.23 | 31.2 |
| SS-VTO-16-TB24       | 1              | 25.40 | 1-1/2           | 38.10 | .88  | 22.35 | 1-5/8          | 3.03 | 76.96 | 3.51 | 89.15 | 1.23 | 31.2 |
| SS-VTO-18-TB24       | 1-1/4          | 31.75 | 1-1/2           | 38.10 | 1.09 | 27.7  | 1-3/4          | 3.23 | 82.00 | 4.10 | 104.1 | 1.62 | 41.2 |

## Reducer



### TUBE (METRIC) TO STUB (INCH)

| Ordering Information | A<br>Tube O.D. |      | A1<br>Tube O.D. |      | D    |      | W<br>Hex. Flat |       | N    |       | L    |       | I    |      |
|----------------------|----------------|------|-----------------|------|------|------|----------------|-------|------|-------|------|-------|------|------|
|                      | mm             | inch | mm              | inch | mm   | inch | mm             | inch  | mm   | inch  | mm   | inch  | mm   | inch |
| SS-VTO-2M-TB02       | 2              | 1/8  | 2.0             | 1/8  | 2.0  | 1/8  | 12             | 1/2   | 26.9 | 1 1/8 | 33.5 | 1 1/4 | 12.9 | 1/2  |
| SS-VTO-3M-TB02       | 3              | 1/8  | 2.0             | 1/8  | 2.0  | 1/8  | 12             | 1/2   | 26.9 | 1 1/8 | 33.5 | 1 1/4 | 12.9 | 1/2  |
| SS-VTO-3M-TB04       | 3              | 1/4  | 2.4             | 1/4  | 2.4  | 1/4  | 12             | 1/2   | 29.5 | 1 1/4 | 36.1 | 1 1/2 | 12.9 | 1/2  |
| SS-VTO-4M-TB04       | 4              | 1/4  | 2.4             | 1/4  | 2.4  | 1/4  | 12             | 1/2   | 30.5 | 1 1/4 | 37.1 | 1 1/2 | 13.7 | 5/16 |
| SS-VTO-6M-TB02       | 6              | 1/8  | 2.2             | 1/8  | 2.2  | 1/8  | 14             | 7/16  | 29.5 | 1 1/8 | 36.9 | 1 1/4 | 15.3 | 5/16 |
| SS-VTO-6M-TB05       | 6              | 5/16 | 4.8             | 3/8  | 4.8  | 3/8  | 14             | 7/16  | 32.5 | 1 3/8 | 39.9 | 1 5/8 | 15.3 | 5/16 |
| SS-VTO-6M-TB06       | 6              | 3/8  | 4.8             | 3/8  | 4.8  | 3/8  | 14             | 7/16  | 33.3 | 1 3/8 | 40.7 | 1 5/8 | 15.3 | 5/16 |
| SS-VTO-6M-TB08       | 6              | 1/2  | 4.8             | 1/2  | 4.8  | 1/2  | 14             | 7/16  | 38.9 | 1 5/8 | 46.3 | 1 7/8 | 15.3 | 5/16 |
| SS-VTO-8M-TB06       | 8              | 3/8  | 6.4             | 3/8  | 6.4  | 3/8  | 15             | 9/16  | 34.5 | 1 3/8 | 42.0 | 1 5/8 | 16.2 | 3/8  |
| SS-VTO-8M-TB08       | 8              | 1/2  | 6.4             | 1/2  | 6.4  | 1/2  | 15             | 9/16  | 40.1 | 1 5/8 | 47.6 | 1 7/8 | 16.2 | 3/8  |
| SS-VTO-10M-TB06      | 10             | 3/8  | 6.8             | 3/8  | 6.8  | 3/8  | 18             | 3/4   | 36.6 | 1 3/8 | 44.2 | 1 5/8 | 17.2 | 3/8  |
| SS-VTO-10M-TB08      | 10             | 1/2  | 7.9             | 1/2  | 7.9  | 1/2  | 18             | 3/4   | 42.2 | 1 5/8 | 49.8 | 1 7/8 | 17.2 | 3/8  |
| SS-VTO-12M-TB08      | 12             | 1/2  | 9.4             | 1/2  | 9.4  | 1/2  | 22             | 7/8   | 42.2 | 1 5/8 | 52.3 | 1 7/8 | 22.8 | 3/4  |
| SS-VTO-12M-TB12      | 12             | 3/4  | 9.4             | 3/4  | 9.4  | 3/4  | 22             | 7/8   | 43.7 | 1 5/8 | 53.8 | 1 7/8 | 22.8 | 3/4  |
| SS-VTO-18M-TB12      | 18             | 3/4  | 15.0            | 3/4  | 15.0 | 3/4  | 27             | 1 1/8 | 46.0 | 1 5/8 | 56.1 | 1 7/8 | 24.4 | 3/4  |
| SS-VTO-18M-TB16      | 18             | 1    | 15.1            | 1    | 15.1 | 1    | 27             | 1 1/8 | 52.3 | 1 5/8 | 62.4 | 1 7/8 | 24.4 | 3/4  |
| SS-VTO-25M-TB16      | 25             | 1    | 20.3            | 1    | 20.3 | 1    | 35             | 1 3/4 | 57.2 | 1 5/8 | 69.5 | 1 7/8 | 31.3 | 3/4  |

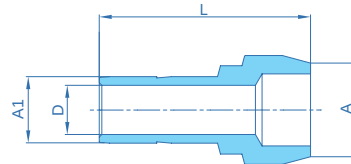
### TUBE (INCH) TO STUB (METRIC)

| Ordering Information | A<br>Tube O.D. |      | A1<br>Tube O.D. |      | D    |      | W<br>Hex. Flat |      | N     |      | L     |      | I    |    |
|----------------------|----------------|------|-----------------|------|------|------|----------------|------|-------|------|-------|------|------|----|
|                      | inch           | mm   | mm              | inch | mm   | inch | mm             | inch | mm    | inch | mm    | inch | mm   | mm |
| SS-VTO-02-TB6M       | 1/8            | 3.17 | 6               | .09  | 2.30 | 7/16 | 11.15          | 1.16 | 29.46 | 1.42 | 36.06 | .50  | 12.7 |    |
| SS-VTO-04-TB6M       | 1/4            | 6.35 | 6               | .16  | 4.00 | 1/2  | 12.70          | 1.25 | 31.75 | 1.54 | 39.11 | .60  | 15.2 |    |
| SS-VTO-06-TB8M       | 3/8            | 9.52 | 8               | .22  | 5.60 | 5/8  | 15.88          | 1.42 | 36.06 | 1.71 | 43.43 | .66  | 16.8 |    |
| SS-VTO-06-TB12M      | 3/8            | 9.52 | 12              | .28  | 7.11 | 5/8  | 15.88          | 1.62 | 41.15 | 1.91 | 48.51 | .66  | 16.8 |    |

# Tube Fitting VRPC Series



## Reducing Port Connector



### TUBE (METRIC)

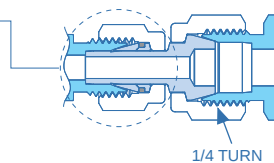
| Ordering Information | A<br>Tube O.D. |  | A1<br>Tube O.D. |  | D    |  | L    |  |
|----------------------|----------------|--|-----------------|--|------|--|------|--|
|                      | mm             |  | mm              |  | mm   |  | mm   |  |
| SS-VRPC-6M-TB3M      | 6              |  | 3               |  | 2.1  |  | 22.9 |  |
| SS-VRPC-8M-TB6M      | 8              |  | 6               |  | 4.0  |  | 24.7 |  |
| SS-VRPC-10M-TB6M     | 10             |  | 6               |  | 4.0  |  | 25.8 |  |
| SS-VRPC-10M-TB8M     | 10             |  | 8               |  | 5.6  |  | 26.1 |  |
| SS-VRPC-12M-TB6M     | 12             |  | 6               |  | 4.0  |  | 29.1 |  |
| SS-VRPC-12M-TB8M     | 12             |  | 8               |  | 5.6  |  | 29.8 |  |
| SS-VRPC-12M-TB10M    | 12             |  | 10              |  | 7.1  |  | 30.6 |  |
| SS-VRPC-16M-TB12M    | 16             |  | 12              |  | 8.8  |  | 37.5 |  |
| SS-VRPC-38M-TB25M    | 38             |  | 25              |  | 19.8 |  | 65.8 |  |

### TUBE (INCH)

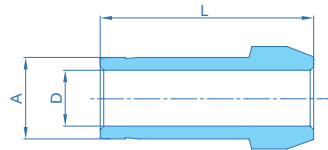
| Ordering Information | A<br>Tube O.D. |       | A1<br>Tube O.D. |       | D    |      | L    |      |
|----------------------|----------------|-------|-----------------|-------|------|------|------|------|
|                      | inch           | mm    | inch            | mm    | inch | mm   | inch | mm   |
| SS-VRPC-02-TB01      | 1/8            | 3.17  | 1/16            | 1.58  | .03  | 0.75 | .68  | 17.3 |
| SS-VRPC-04-TB01      | 1/4            | 6.35  | 1/16            | 1.58  | .03  | 0.75 | .71  | 18.0 |
| SS-VRPC-04-TB02      | 1/4            | 6.35  | 1/8             | 3.17  | .08  | 2.03 | .89  | 22.6 |
| SS-VRPC-06-TB02      | 3/8            | 9.52  | 1/8             | 3.17  | .08  | 2.03 | .91  | 23.2 |
| SS-VRPC-06-TB04      | 3/8            | 9.52  | 1/4             | 6.35  | .17  | 4.20 | .98  | 24.9 |
| SS-VRPC-08-TB04      | 1/2            | 12.70 | 1/4             | 6.35  | .17  | 4.20 | 1.15 | 29.2 |
| SS-VRPC-08-TB06      | 1/2            | 12.70 | 3/8             | 9.52  | .28  | 7.10 | 1.20 | 30.5 |
| SS-VRPC-12-TB08      | 3/4            | 19.05 | 1/2             | 12.70 | .39  | 9.90 | 1.49 | 37.9 |

#### Tighten The Tube Fitting Nut:

- 1/4 " (6mm) and above, need to tighten the Tube fitting nut 1-1/4 turn.
- 3/16 " (4mm) and below, need to tighten the Tube fitting nut 3/4 turn.



## Port Connector

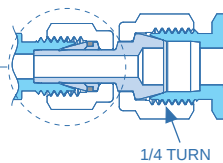


| TUBE (METRIC)        |                |      |       |
|----------------------|----------------|------|-------|
| Ordering Information | A<br>Tube O.D. |      | L     |
|                      | mm             | mm   | mm    |
| SS-VPC-3M            | 3              | 2.1  | 22.2  |
| SS-VPC-6M            | 6              | 4.0  | 25.0  |
| SS-VPC-8M            | 8              | 5.6  | 25.9  |
| SS-VPC-10M           | 10             | 7.1  | 27.1  |
| SS-VPC-12M           | 12             | 8.8  | 36.2  |
| SS-VPC-16M           | 16             | 12.7 | 37.4  |
| SS-VPC-18M           | 18             | 13.9 | 37.4  |
| SS-VPC-38M           | 38             | 31.6 | 81.9  |
| SS-VPC-50M           | 50             | 42.8 | 114.0 |

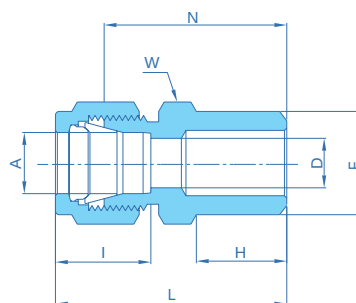
| TUBE (INCH)          |                |       |      |       |      |       |
|----------------------|----------------|-------|------|-------|------|-------|
| Ordering Information | A<br>Tube O.D. |       | D    |       | L    |       |
|                      | inch           | mm    | inch | mm    | inch | mm    |
| SS-VPC-01            | 1/16           | 1.58  | .03  | 0.75  | .54  | 13.7  |
| SS-VPC-02            | 1/8            | 3.17  | .08  | 2.03  | .88  | 22.4  |
| SS-VPC-04            | 1/4            | 6.35  | .17  | 4.20  | .98  | 24.9  |
| SS-VPC-05            | 5/16           | 7.93  | .24  | 6.00  | 1.02 | 25.9  |
| SS-VPC-06            | 3/8            | 9.52  | .27  | 6.85  | 1.03 | 26.2  |
| SS-VPC-08            | 1/2            | 12.70 | .37  | 9.40  | 1.41 | 35.8  |
| SS-VPC-12            | 3/4            | 19.05 | .59  | 15.00 | 1.47 | 37.3  |
| SS-VPC-16            | 1              | 25.40 | .80  | 20.30 | 1.90 | 48.1  |
| SS-VPC-18            | 1-1/4          | 31.75 | 1.02 | 26.00 | 2.72 | 69.1  |
| SS-VPC-24            | 1-1/2          | 38.10 | 1.25 | 31.60 | 3.31 | 84.1  |
| SS-VPC-32            | 2              | 50.80 | 1.72 | 43.67 | 4.56 | 115.8 |

Tighten The Tube Fitting Nut:

- 1/4 " (6mm) and above, need to tighten the Tube fitting nut 1-1/4 turn.
- 3/16 " (4mm) and below, need to tighten the Tube fitting nut 3/4 turn.



## Male Pipe Weld Connector



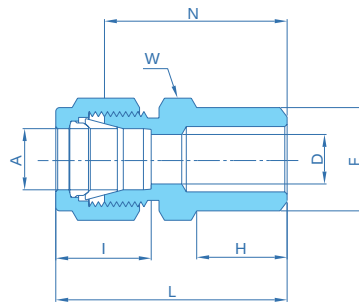
| TUBE (METRIC)        |           |           |       |      |           |      |      |      |      |
|----------------------|-----------|-----------|-------|------|-----------|------|------|------|------|
| Ordering Information | A         | F         |       | D    | W         | N    | H    | L    | I    |
|                      | Tube O.D. | Pipe Size |       |      | Hex. Flat |      |      |      |      |
|                      | mm        | inch      | mm    | mm   | mm        | mm   | mm   | mm   | mm   |
| SS-VWC-3M-TW02       | 3         | 1/8       | 10.30 | 2.4  | 12        | 23.9 | 9.7  | 30.5 | 12.9 |
| SS-VWC-4M-TW02       | 4         | 1/8       | 10.30 | 2.4  | 12        | 24.6 | 9.7  | 31.2 | 13.7 |
| SS-VWC-6M-TW02       | 6         | 1/8       | 10.30 | 4.8  | 14        | 25.4 | 9.7  | 32.8 | 15.3 |
| SS-VWC-6M-TW04       | 6         | 1/4       | 13.70 | 4.8  | 14        | 30.5 | 14.2 | 37.9 | 15.3 |
| SS-VWC-8M-TW02       | 8         | 1/8       | 10.30 | 5.1  | 15        | 26.7 | 9.7  | 34.2 | 16.2 |
| SS-VWC-8M-TW04       | 8         | 1/4       | 13.70 | 6.4  | 15        | 31.2 | 14.2 | 38.7 | 16.2 |
| SS-VWC-8M-TW08       | 8         | 1/2       | 21.34 | 6.4  | 22        | 38.1 | 19.0 | 45.6 | 16.2 |
| SS-VWC-10M-TW04      | 10        | 1/4       | 13.70 | 7.1  | 18        | 33.3 | 14.2 | 40.9 | 17.2 |
| SS-VWC-10M-TW06      | 10        | 3/8       | 17.10 | 7.9  | 18        | 33.3 | 14.2 | 40.9 | 17.2 |
| SS-VWC-10M-TW08      | 10        | 1/2       | 21.34 | 7.9  | 22        | 38.9 | 19.0 | 46.5 | 17.2 |
| SS-VWC-12M-TW04      | 12        | 1/4       | 13.70 | 7.1  | 22        | 33.3 | 14.2 | 43.4 | 22.8 |
| SS-VWC-12M-TW06      | 12        | 3/8       | 17.10 | 9.5  | 22        | 33.3 | 14.2 | 43.4 | 22.8 |
| SS-VWC-12M-TW08      | 12        | 1/2       | 21.34 | 9.5  | 22        | 38.9 | 19.0 | 49.0 | 22.8 |
| SS-VWC-12M-TW12      | 12        | 3/4       | 26.67 | 9.5  | 27        | 40.4 | 19.0 | 50.5 | 22.8 |
| SS-VWC-14M-TW06      | 14        | 3/8       | 17.10 | 10.4 | 24        | 34.0 | 14.2 | 44.1 | 24.4 |
| SS-VWC-15M-TW08      | 15        | 1/2       | 21.34 | 11.9 | 24        | 38.9 | 19.0 | 49.0 | 24.4 |
| SS-VWC-16M-TW08      | 16        | 1/2       | 21.34 | 12.7 | 24        | 38.9 | 19.0 | 49.0 | 24.4 |
| SS-VWC-18M-TW08      | 18        | 1/2       | 21.34 | 13.5 | 27        | 40.4 | 19.0 | 50.5 | 24.4 |
| SS-VWC-30M-TW18      | 30        | 1-1/4     | 42.2  | 26.2 | 46        | 55.6 | 23.9 | 77.2 | 39.6 |
| SS-VWC-32M-TW18      | 32        | 1-1/4     | 42.2  | 28.6 | 46        | 56.6 | 23.9 | 79.6 | 42   |
| SS-VWC-38M-TW24      | 38        | 1-1/2     | 48.30 | 33.7 | 55        | 64.0 | 26.2 | 91.2 | 49.4 |

# Tube Fitting

## VWC / VWA Series

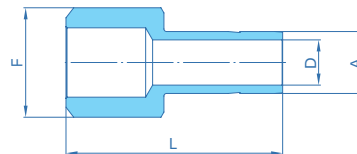


### Male Pipe Weld Connector



| TUBE (METRIC)        |                |       |                |       |      |       |                |      |       |      |       |      |        |      |      |
|----------------------|----------------|-------|----------------|-------|------|-------|----------------|------|-------|------|-------|------|--------|------|------|
| Ordering Information | A<br>Tube O.D. |       | F<br>Pipe Size |       | D    |       | W<br>Hex. Flat | N    |       | H    |       | L    |        | I    |      |
|                      | inch           | mm    | inch           | mm    | inch | mm    | inch           | inch | mm    | inch | mm    | inch | mm     | inch | mm   |
| SS-VWC-02-TW02       | 1/8            | 3.7   | 1/8            | 10.30 | .09  | 2.28  | 7/16           | .94  | 23.88 | .38  | 9.65  | 1.20 | 30.48  | .50  | 12.7 |
| SS-VWC-03-TW02       | 3/16           | 4.76  | 1/8            | 10.30 | .12  | 3.04  | 7/16           | .97  | 24.60 | .38  | 9.65  | 1.23 | 31.25  | .54  | 13.7 |
| SS-VWC-04-TW02       | 1/4            | 6.35  | 1/8            | 10.30 | .19  | 4.82  | 1/2            | 1.00 | 25.40 | .38  | 9.65  | 1.29 | 32.77  | .60  | 15.2 |
| SS-VWC-04-TW04       | 1/4            | 6.35  | 1/4            | 13.70 | .19  | 4.82  | 9/16           | 1.20 | 30.48 | .56  | 14.22 | 1.49 | 37.85  | .60  | 15.2 |
| SS-VWC-05-TW02       | 5/16           | 7.93  | 1/8            | 10.30 | .20  | 5.08  | 9/16           | 1.05 | 26.67 | .38  | 9.65  | 1.34 | 34.04  | .64  | 16.2 |
| SS-VWC-05-TW04       | 5/16           | 7.93  | 1/4            | 13.70 | .25  | 6.35  | 9/16           | 1.23 | 31.24 | .56  | 14.22 | 1.52 | 38.61  | .64  | 16.2 |
| SS-VWC-06-TW04       | 3/8            | 9.52  | 1/4            | 13.70 | .28  | 7.11  | 5/8            | 1.28 | 32.51 | .56  | 14.22 | 1.57 | 39.87  | .66  | 16.8 |
| SS-VWC-06-TW06       | 3/8            | 9.52  | 3/8            | 17.10 | .28  | 7.11  | 11/16          | 1.28 | 32.51 | .56  | 14.22 | 1.57 | 39.87  | .66  | 16.8 |
| SS-VWC-06-TW08       | 3/8            | 9.52  | 1/2            | 21.34 | .28  | 7.11  | 7/8            | 1.53 | 38.86 | .75  | 19.05 | 1.82 | 46.22  | .66  | 16.8 |
| SS-VWC-06-TW12       | 3/8            | 9.52  | 3/4            | 26.67 | .28  | 7.11  | 1-1/16         | 1.59 | 40.38 | .75  | 19.05 | 1.88 | 47.75  | .66  | 16.8 |
| SS-VWC-08-TW06       | 1/2            | 12.70 | 3/8            | 17.10 | .41  | 10.41 | 13/16          | 1.31 | 33.27 | .56  | 14.22 | 1.71 | 44.43  | .90  | 22.9 |
| SS-VWC-08-TW08       | 1/2            | 12.70 | 1/2            | 21.34 | .41  | 10.41 | 7/8            | 1.53 | 38.86 | .75  | 19.05 | 1.93 | 49.00  | .90  | 22.9 |
| SS-VWC-08-TW12       | 1/2            | 12.70 | 3/4            | 26.67 | .41  | 10.41 | 1-1/16         | 1.59 | 40.40 | .75  | 19.05 | 1.99 | 50.55  | .90  | 22.9 |
| SS-VWC-08-TW16       | 1/2            | 12.70 | 1              | 33.40 | .41  | 10.41 | 1-3/8          | 1.87 | 47.50 | .94  | 23.87 | 2.27 | 57.65  | .90  | 22.9 |
| SS-VWC-10-TW08       | 5/8            | 15.87 | 1/2            | 21.34 | .50  | 12.70 | 15/16          | 1.53 | 38.86 | .75  | 19.05 | 1.93 | 49.02  | .96  | 24.4 |
| SS-VWC-12-TW08       | 3/4            | 19.05 | 1/2            | 21.34 | .53  | 13.46 | 1-1/16         | 1.53 | 38.86 | .75  | 19.05 | 1.93 | 49.00  | .96  | 24.4 |
| SS-VWC-12-TW12       | 3/4            | 19.05 | 3/4            | 26.67 | .62  | 15.74 | 1-1/16         | 1.59 | 40.40 | .75  | 19.05 | 1.99 | 50.55  | .96  | 24.4 |
| SS-VWC-16-TW16       | 1              | 25.40 | 1              | 33.40 | .88  | 22.35 | 1-3/8          | 1.97 | 50.03 | .94  | 23.87 | 2.45 | 62.23  | 1.23 | 31.2 |
| SS-VWC-16-TW18       | 1-1/4          | 31.75 | 1-1/4          | 42.16 | 1.09 | 27.70 | 1-3/4          | 2.17 | 55.12 | .94  | 23.88 | 3.04 | 77.22  | 1.62 | 41.2 |
| SS-VWC-24-TW24       | 1-1/2          | 38.10 | 1-1/2          | 48.26 | 1.34 | 34.00 | 2-1/8          | 2.43 | 61.72 | 1.03 | 26.16 | 3.50 | 88.90  | 1.97 | 50.0 |
| SS-VWC-32-TW32       | 2              | 50.80 | 2              | 60.33 | 1.81 | 45.97 | 2-3/4          | 3.00 | 76.20 | 1.06 | 26.92 | 4.47 | 113.34 | 2.66 | 67.6 |

### Weld Adapter Tube To Pipe



| TUBE (INCH)          |                |       |                |       |      |      |      |       |
|----------------------|----------------|-------|----------------|-------|------|------|------|-------|
| Ordering Information | A<br>Tube O.D. |       | F<br>Pipe Size |       | D    |      | L    |       |
|                      | inch           | mm    | inch           | mm    | inch | mm   | inch | mm    |
| SS-VWA-04-04         | 1/4            | 6.35  | 1/4            | 13.70 | .17  | 4.20 | 1.14 | 28.96 |
| SS-VWA-06-08         | 3/8            | 9.52  | 1/2            | 21.34 | .27  | 6.85 | 1.46 | 37.08 |
| SS-VWA-08-08         | 1/2            | 12.7  | 1/2            | 21.34 | .37  | 9.40 | 1.66 | 42.15 |
| SS-VWA-08-12         | 1/2            | 12.7  | 3/4            | 26.67 | .37  | 9.40 | 1.68 | 42.67 |
| SS-VWA-12-12         | 3/4            | 19.05 | 3/4            | 26.67 | .59  | 15.0 | 1.87 | 47.50 |

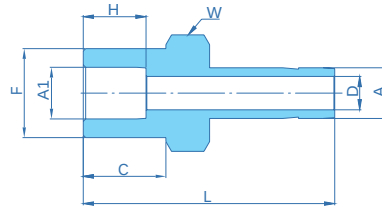
Dimensions are for reference only and are subject to change without prior notice

# Tube Fitting

## VSWA / VSWC Series



### Socket Weld Adapter



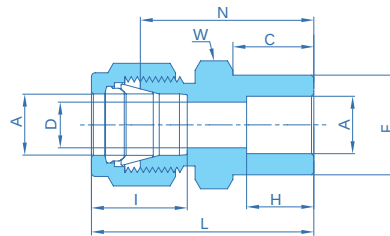
#### TUBE (METRIC) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |  | A1<br>Pipe Size |  | C    |  | D   |  | W<br>Hex. Flat |  | F    |  | H   |  | L    |  |
|----------------------|----------------|--|-----------------|--|------|--|-----|--|----------------|--|------|--|-----|--|------|--|
|                      | mm             |  | inch            |  | mm   |  | mm  |  | inch           |  | mm   |  | mm  |  | mm   |  |
| SS-VSWA-6M-04        | 6              |  | 1/4             |  | 10.4 |  | 4.0 |  | 1/2            |  | 11.2 |  | 7.9 |  | 31.7 |  |
| SS-VSWA-10M-04       | 10             |  | 1/4             |  | 10.4 |  | 4.8 |  | 9/16           |  | 11.2 |  | 7.9 |  | 34.0 |  |
| SS-VSWA-10M-06       | 10             |  | 3/8             |  | 11.9 |  | 7.1 |  | 5/8            |  | 15.8 |  | 9.7 |  | 36.0 |  |

#### TUBE (INCH) TO TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |      | A1<br>Pipe Size |      | C    |       | D    |      | W<br>Hex. Flat |      | F    |       | H    |      | L    |       |
|----------------------|----------------|------|-----------------|------|------|-------|------|------|----------------|------|------|-------|------|------|------|-------|
|                      | inch           | mm   | inch            | mm   | inch | mm    | inch | mm   | inch           | mm   | inch | mm    | inch | mm   | inch | mm    |
| SS-VSWA-04-04        | 1/4            | 6.35 | 1/4             | 6.35 | .41  | 10.47 | .17  | 4.20 | 1/2            | 12.7 | .44  | 11.18 | .31  | 7.90 | 1.25 | 31.70 |
| SS-VSWA-06-06        | 3/8            | 9.52 | 3/8             | 9.52 | .47  | 11.94 | .28  | 7.11 | 5/8            | 15.9 | .62  | 15.75 | .38  | 9.65 | 1.42 | 36.70 |
| SS-VSWA-08-08        | 1/2            | 12.7 | 1/2             | 12.7 | .47  | 11.94 | .39  | 9.91 | 13/16          | 20.6 | .75  | 19.05 | .50  | 12.7 | 1.67 | 42.42 |

### Tube Socket Weld Union

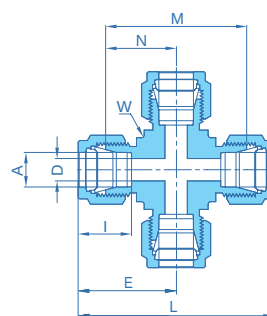


#### TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | C    |       | D    |       | W<br>Hex. Flat |  | F    |       | H    |       | I    |       | L    |       | N    |       |
|----------------------|----------------|-------|------|-------|------|-------|----------------|--|------|-------|------|-------|------|-------|------|-------|------|-------|
|                      | inch           | mm    | inch | mm    | inch | mm    | inch           |  | inch | mm    | inch | mm    | inch | mm    | inch | mm    | inch | mm    |
| SS-VSWC-02-02        | 1/8            | 3.17  | .34  | 8.64  | .09  | 2.28  | 7/16           |  | .31  | 7.87  | .25  | 6.35  | .50  | 12.70 | 1.14 | 28.96 | .88  | 22.35 |
| SS-VSWC-04-04        | 1/4            | 6.35  | .41  | 10.41 | .19  | 4.80  | 1/2            |  | .44  | 11.18 | .31  | 7.90  | .60  | 15.20 | 1.32 | 33.53 | 1.03 | 26.16 |
| SS-VSWC-06-06        | 3/8            | 9.52  | .47  | 11.94 | .28  | 7.10  | 5/8            |  | .62  | 15.75 | .38  | 9.65  | .66  | 16.80 | 1.48 | 37.60 | 1.19 | 30.23 |
| SS-VSWC-08-08        | 1/2            | 12.70 | .47  | 11.94 | .41  | 10.40 | 13/16          |  | .75  | 19.05 | .50  | 12.70 | .90  | 22.90 | 1.62 | 41.15 | 1.22 | 31.00 |
| SS-VSWC-12-12        | 3/4            | 19.05 | .47  | 11.94 | .62  | 15.80 | 1-1/16         |  | 1.05 | 26.67 | .56  | 14.20 | .96  | 24.40 | 1.71 | 43.43 | 1.31 | 33.28 |
| SS-VSWC-16-16        | 1              | 25.40 | .56  | 14.22 | .88  | 22.35 | 1-3/8          |  | 1.36 | 34.54 | .75  | 19.05 | 1.23 | 31.20 | 2.07 | 52.58 | 1.59 | 40.40 |

Dimensions are for reference only and are subject to change without prior notice

## Union Cross



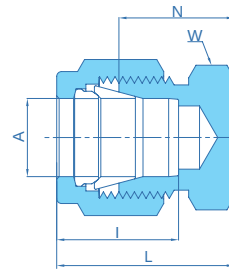
| TUBE (METRIC)        |                |      |      |                  |      |      |      |      |      |
|----------------------|----------------|------|------|------------------|------|------|------|------|------|
| Ordering Information | A<br>Tube O.D. | D    | N    | W<br>Wrench Flat |      | E    | M    | L    | I    |
|                      | mm             | inch | mm   | inch             | mm   | mm   | mm   | mm   | mm   |
| SS-VUC-3M            | 3              | 2.4  | 15.7 | 3/8              | 9.5  | 22.3 | 31.5 | 44.7 | 12.9 |
| SS-VUC-6M            | 6              | 4.8  | 19.6 | 1/2              | 12.7 | 27.0 | 39.1 | 53.9 | 15.3 |
| SS-VUC-8M            | 8              | 6.4  | 22.4 | 5/8              | 15.9 | 29.9 | 44.7 | 59.7 | 16.2 |
| SS-VUC-10M           | 10             | 7.9  | 25.9 | 13/16            | 20.6 | 33.5 | 51.8 | 67.0 | 17.2 |
| SS-VUC-12M           | 12             | 9.5  | 25.9 | 13/16            | 20.6 | 36.0 | 51.8 | 72.0 | 22.8 |
| SS-VUC-16M           | 16             | 12.7 | 26.9 | 15/16            | 23.8 | 37.0 | 53.8 | 74.0 | 24.4 |
| SS-VUC-18M           | 18             | 15.1 | 28.2 | 1-1/16           | 27.0 | 38.3 | 56.4 | 76.6 | 24.4 |
| SS-VUC-20M           | 20             | 15.9 | 34.5 | 1-3/8            | 34.9 | 44.6 | 69.0 | 89.3 | 26.0 |
| SS-VUC-22M           | 22             | 18.3 | 34.6 | 1-3/8            | 34.9 | 44.7 | 69.1 | 89.4 | 26.0 |
| SS-VUC-25M           | 25             | 21.8 | 36.8 | 1-3/8            | 34.9 | 49.1 | 73.7 | 98.3 | 31.3 |

| TUBE (INCH)          |                |       |      |       |      |       |                  |      |      |       |      |       |      |       |      |      |
|----------------------|----------------|-------|------|-------|------|-------|------------------|------|------|-------|------|-------|------|-------|------|------|
| Ordering Information | A<br>Tube O.D. |       | D    |       | N    |       | W<br>Wrench Flat |      | E    |       | M    |       | L    |       | I    |      |
|                      | inch           | mm    | inch | mm    | inch | mm    | inch             | mm   | inch | mm    | inch | mm    | inch | mm    | inch | mm   |
| SS-VUC-02            | 1/8            | 3.17  | .09  | 2.28  | .62  | 15.74 | 3/8              | 9.5  | .88  | 22.35 | 1.24 | 31.48 | 1.76 | 44.70 | .50  | 12.7 |
| SS-VUC-04            | 1/4            | 6.35  | .19  | 4.82  | .77  | 19.56 | 1/2              | 12.7 | 1.06 | 26.92 | 1.54 | 39.12 | 2.12 | 53.84 | .60  | 15.2 |
| SS-VUC-05            | 5/16           | 7.93  | .25  | 6.35  | .88  | 22.35 | 5/8              | 15.9 | 1.17 | 29.71 | 1.76 | 44.70 | 2.34 | 59.42 | .64  | 16.2 |
| SS-VUC-06            | 3/8            | 9.52  | .28  | 7.11  | .91  | 23.11 | 5/8              | 15.9 | 1.20 | 30.48 | 1.82 | 46.22 | 2.40 | 60.96 | .66  | 16.8 |
| SS-VUC-08            | 1/2            | 12.70 | .41  | 10.41 | 1.02 | 25.9  | 13/16            | 20.6 | 1.42 | 36.07 | 2.04 | 51.80 | 2.84 | 72.14 | .90  | 22.9 |
| SS-VUC-12            | 3/4            | 19.05 | .62  | 15.74 | 1.17 | 29.72 | 1-1/16           | 27.0 | 1.57 | 39.88 | 2.34 | 59.44 | 3.14 | 79.76 | .96  | 24.4 |
| SS-VUC-16            | 1              | 25.40 | .88  | 22.35 | 1.45 | 36.8  | 1-3/8            | 34.9 | 1.93 | 49.02 | 2.90 | 73.60 | 3.86 | 98.04 | 1.23 | 31.2 |

# Tube Fitting VC Series



## Cap



### TUBE (METRIC)

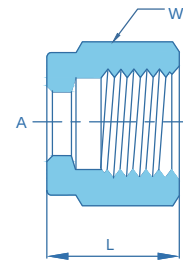
| Ordering Information | A<br>Tube O.D. |  | W<br>Wrench Flat |  | N    |  | L    |  | I    |  |
|----------------------|----------------|--|------------------|--|------|--|------|--|------|--|
|                      | mm             |  | mm               |  | mm   |  | mm   |  | mm   |  |
| SS-VC-2M             | 2              |  | 12               |  | 13.5 |  | 20.1 |  | 12.9 |  |
| SS-VC-3M             | 3              |  | 12               |  | 13.5 |  | 20.1 |  | 12.9 |  |
| SS-VC-4M             | 4              |  | 12               |  | 14.7 |  | 21.3 |  | 13.7 |  |
| SS-VC-6M             | 6              |  | 14               |  | 15.7 |  | 23.1 |  | 15.3 |  |
| SS-VC-8M             | 8              |  | 15               |  | 17.0 |  | 24.5 |  | 16.2 |  |
| SS-VC-10M            | 10             |  | 18               |  | 19.0 |  | 26.6 |  | 17.2 |  |
| SS-VC-12M            | 12             |  | 22               |  | 19.0 |  | 30.7 |  | 22.8 |  |
| SS-VC-14M            | 14             |  | 24               |  | 19.8 |  | 31.5 |  | 24.4 |  |
| SS-VC-15M            | 15             |  | 24               |  | 19.8 |  | 31.5 |  | 24.4 |  |
| SS-VC-16M            | 16             |  | 24               |  | 19.8 |  | 31.5 |  | 24.4 |  |
| SS-VC-18M            | 18             |  | 27               |  | 21.3 |  | 32.3 |  | 24.4 |  |
| SS-VC-20M            | 20             |  | 30               |  | 23.9 |  | 34.8 |  | 26.0 |  |
| SS-VC-22M            | 22             |  | 30               |  | 23.9 |  | 34.8 |  | 26.0 |  |
| SS-VC-25M            | 25             |  | 35               |  | 26.2 |  | 40.9 |  | 31.3 |  |
| SS-VC-38M            | 38*            |  | 55               |  | 37.8 |  | 65.4 |  | 49.4 |  |

### TUBE (INCH)

| Ordering Information | A<br>Tube O.D. |       | W<br>Wrench Flat |  | N    |       | L    |       | I    |      |
|----------------------|----------------|-------|------------------|--|------|-------|------|-------|------|------|
|                      | inch           | mm    | inch             |  | inch | mm    | inch | mm    | inch | mm   |
| SS-VC-01             | 1/16           | 1.58  | 5/16             |  | .44  | 11.17 | .59  | 14.98 | .34  | 8.6  |
| SS-VC-02             | 1/8            | 3.17  | 7/16             |  | .53  | 13.46 | .79  | 20.06 | .50  | 12.7 |
| SS-VC-03             | 3/16           | 4.76  | 7/16             |  | .58  | 14.73 | .84  | 21.84 | .54  | 13.7 |
| SS-VC-04             | 1/4            | 6.35  | 1/2              |  | .63  | 16.00 | .92  | 23.37 | .60  | 15.2 |
| SS-VC-05             | 5/16           | 7.93  | 9/16             |  | .67  | 17.01 | .96  | 24.38 | .64  | 16.2 |
| SS-VC-06             | 3/8            | 9.52  | 5/8              |  | .72  | 18.28 | 1.01 | 26.65 | .66  | 16.8 |
| SS-VC-08             | 1/2            | 12.70 | 13/16            |  | .75  | 19.05 | 1.15 | 30.70 | .90  | 22.9 |
| SS-VC-10             | 5/8            | 15.87 | 15/16            |  | .78  | 19.81 | 1.18 | 31.50 | .96  | 24.4 |
| SS-VC-12             | 3/4            | 19.05 | 1-1/16           |  | .84  | 21.33 | 1.24 | 32.30 | .96  | 24.4 |
| SS-VC-14             | 7/8            | 22.22 | 1-3/16           |  | .94  | 23.88 | 1.34 | 34.04 | 1.02 | 25.9 |
| SS-VC-16             | 1              | 25.40 | 1-3/8            |  | 1.03 | 26.16 | 1.51 | 40.90 | 1.23 | 31.2 |
| SS-VC-18             | 1-1/4          | 31.75 | 1-3/4            |  | 1.23 | 31.24 | 2.10 | 53.34 | 1.62 | 41.2 |
| SS-VC-24             | 1- 1/2         | 38.10 | 2-1/8            |  | 1.47 | 37.33 | 2.54 | 64.52 | 1.97 | 50.0 |
| SS-VC-32             | 2              | 50.80 | 2-3/4            |  | 1.94 | 49.28 | 3.41 | 86.61 | 2.66 | 67.6 |

Dimensions are for reference only and are subject to change without prior notice

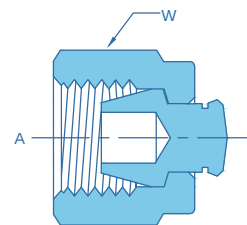
## Nut



| TUBE (METRIC)        |                |                |      |
|----------------------|----------------|----------------|------|
| Ordering Information | A<br>Tube O.D. | W<br>Hex. Flat | L    |
|                      |                |                |      |
| SS-VN-2M             | 2              | 12             | 11.9 |
| SS-VN-3M             | 3              | 12             | 11.9 |
| SS-VN-4M             | 4              | 12             | 11.9 |
| SS-VN-6M             | 6              | 14             | 12.7 |
| SS-VN-8M             | 8              | 16             | 13.5 |
| SS-VN-10M            | 10             | 19             | 15.1 |
| SS-VN-12M            | 12             | 22             | 17.4 |
| SS-VN-14M            | 14             | 25             | 17.4 |
| SS-VN-15M            | 15             | 25             | 17.4 |
| SS-VN-16M            | 16             | 25             | 17.4 |
| SS-VN-18M            | 18             | 30             | 17.4 |
| SS-VN-20M            | 20             | 32             | 17.4 |
| SS-VN-22M            | 22             | 32             | 17.4 |
| SS-VN-25M            | 25             | 38             | 20.6 |
| SS-VN-38M            | 38             | 60             | 40.6 |
| SS-VN-50M            | 50             | inch3          | 54.0 |

| TUBE (INCH)          |                |       |                |      |       |
|----------------------|----------------|-------|----------------|------|-------|
| Ordering Information | A<br>Tube O.D. |       | W<br>Hex. Flat | L    |       |
|                      | inch           | mm    | inch           | inch | mm    |
| SS-VN-01             | 1/16           | 1.58  | 5/16           | .31  | 7.87  |
| SS-VN-02             | 1/8            | 3.17  | 7/16           | .47  | 11.93 |
| SS-VN-03             | 3/16           | 4.76  | 1/2            | .47  | 11.93 |
| SS-VN-04             | 1/4            | 6.35  | 9/16           | .50  | 12.70 |
| SS-VN-05             | 5/16           | 7.93  | 5/8            | .53  | 13.46 |
| SS-VN-06             | 3/8            | 9.52  | 11/16          | .56  | 14.22 |
| SS-VN-08             | 1/2            | 12.70 | 7/8            | .69  | 17.52 |
| SS-VN-10             | 5/8            | 15.87 | 1              | .69  | 17.52 |
| SS-VN-12             | 3/4            | 19.05 | 1-1/8          | .69  | 17.52 |
| SS-VN-14             | 7/8            | 22.22 | 1-1/4          | .69  | 17.52 |
| SS-VN-16             | 1              | 25.40 | 1-1/2          | .81  | 20.57 |
| SS-VN-18             | 1-1/4          | 31.75 | 1-7/8          | 1.25 | 31.75 |
| SS-VN-24             | 1-1/2          | 38.10 | 2-1/4          | 1.50 | 38.10 |
| SS-VN-32             | 2              | 50.80 | 3              | 2.06 | 52.32 |

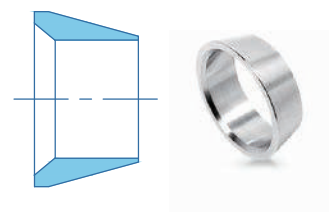
## Plug



| TUBE (METRIC)        |                |                |
|----------------------|----------------|----------------|
| Ordering Information | A<br>Tube O.D. | W<br>Hex. Flat |
|                      | mm             | mm             |
| SS-VP-2M             | 2              | 12             |
| SS-VP-3M             | 3              | 12             |
| SS-VP-4M             | 4              | 12             |
| SS-VP-6M             | 6              | 14             |
| SS-VP-8M             | 8              | 16             |
| SS-VP-10M            | 10             | 19             |
| SS-VP-12M            | 12             | 22             |
| SS-VP-14M            | 14             | 25             |
| SS-VP-15M            | 15             | 25             |
| SS-VP-16M            | 16             | 25             |
| SS-VP-18M            | 18             | 30             |
| SS-VP-20M            | 20             | 32             |
| SS-VP-22M            | 22             | 32             |
| SS-VP-25M            | 25             | 38             |
| SS-VP-38M            | 38             | 60             |
| SS-VP-50M            | 50             | 3 inch         |

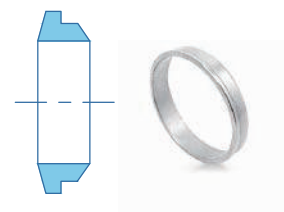
| TUBE (INCH)          |                |       |                |
|----------------------|----------------|-------|----------------|
| Ordering Information | A<br>Tube O.D. |       | W<br>Hex. Flat |
|                      | inch           | mm    | inch           |
| SS-VP-01             | 1/16           | 1.58  | 5/16           |
| SS-VP-02             | 1/8            | 3.17  | 7/16           |
| SS-VP-03             | 3/16           | 4.76  | 1/2            |
| SS-VP-04             | 1/4            | 6.35  | 9/16           |
| SS-VP-05             | 5/16           | 7.93  | 5/8            |
| SS-VP-06             | 3/8            | 9.52  | 11/16          |
| SS-VP-08             | 1/2            | 12.70 | 7/8            |
| SS-VP-10             | 5/8            | 15.87 | 1              |
| SS-VP-12             | 3/4            | 19.05 | 1-1/8          |
| SS-VP-14             | 7/8            | 22.22 | 1-1/4          |
| SS-VP-16             | 1              | 25.40 | 1-1/2          |
| SS-VP-18             | 1-1/4          | 31.75 | 1-7/8          |
| SS-VP-24             | 1-1/2          | 38.10 | 2-1/4          |
| SS-VP-32             | 2              | 50.80 | 3 inch         |

## Front Ferrule



| TUBE (METRIC)        |           |  |
|----------------------|-----------|--|
| Ordering Information | Tube O.D. |  |
|                      | mm        |  |
| SS-VFF-2M            | 2         |  |
| SS-VFF-3M            | 3         |  |
| SS-VFF-4M            | 4         |  |
| SS-VFF-6M            | 6         |  |
| SS-VFF-8M            | 8         |  |
| SS-VFF-10M           | 10        |  |
| SS-VFF-12M           | 12        |  |
| SS-VFF-14M           | 14        |  |
| SS-VFF-15M           | 15        |  |
| SS-VFF-16M           | 16        |  |
| SS-VFF-18M           | 18        |  |
| SS-VFF-20M           | 20        |  |
| SS-VFF-22M           | 22        |  |
| SS-VFF-25M           | 25        |  |
| SS-VFF-38M           | 38        |  |
| SS-VFF-50M           | 50        |  |

| TUBE (INCH)          |           |       |
|----------------------|-----------|-------|
| Ordering Information | Tube O.D. |       |
|                      | inch      | mm    |
| SS-VFF-01            | 1/16      | 1.58  |
| SS-VFF-02            | 1/8       | 3.17  |
| SS-VFF-03            | 3/16      | 4.76  |
| SS-VFF-04            | 1/4       | 6.35  |
| SS-VFF-05            | 5/16      | 7.93  |
| SS-VFF-06            | 3/8       | 9.52  |
| SS-VFF-08            | 1/2       | 12.70 |
| SS-VFF-10            | 5/8       | 15.87 |
| SS-VFF-12            | 3/4       | 19.05 |
| SS-VFF-14            | 7/8       | 22.22 |
| SS-VFF-16            | 1         | 25.40 |
| SS-VFF-18            | 1-1/4     | 31.75 |
| SS-VFF-24            | 1-1/2     | 38.10 |
| SS-VFF-32            | 2         | 50.80 |



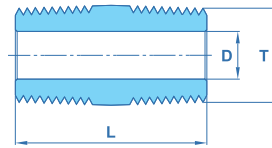
| TUBE (METRIC)        |           |  |
|----------------------|-----------|--|
| Ordering Information | Tube O.D. |  |
|                      | mm        |  |
| SS-VBF-2M            | 2         |  |
| SS-VBF-3M            | 3         |  |
| SS-VBF-4M            | 4         |  |
| SS-VBF-6M            | 6         |  |
| SS-VBF-8M            | 8         |  |
| SS-VBF-10M           | 10        |  |
| SS-VBF-12M           | 12        |  |
| SS-VBF-14M           | 14        |  |
| SS-VBF-15M           | 15        |  |
| SS-VBF-16M           | 16        |  |
| SS-VBF-18M           | 18        |  |
| SS-VBF-20M           | 20        |  |
| SS-VBF-22M           | 22        |  |
| SS-VBF-25M           | 25        |  |
| SS-VBF-38M           | 38        |  |
| SS-VBF-50M           | 50        |  |

| TUBE (INCH)          |           |       |
|----------------------|-----------|-------|
| Ordering Information | Tube O.D. |       |
|                      | inch      | mm    |
| SS-VBF-01            | 1/16      | 1.58  |
| SS-VBF-02            | 1/8       | 3.17  |
| SS-VBF-03            | 3/16      | 4.76  |
| SS-VBF-04            | 1/4       | 6.35  |
| SS-VBF-05            | 5/16      | 7.93  |
| SS-VBF-06            | 3/8       | 9.52  |
| SS-VBF-08            | 1/2       | 12.70 |
| SS-VBF-10            | 5/8       | 15.87 |
| SS-VBF-12            | 3/4       | 19.05 |
| SS-VBF-14            | 7/8       | 22.22 |
| SS-VBF-16            | 1         | 25.40 |
| SS-VBF-18            | 1-1/4     | 31.75 |
| SS-VBF-24            | 1-1/2     | 38.10 |
| SS-VBF-32            | 2         | 50.80 |

# Instrument Pipe Fitting VHD / VAD Series

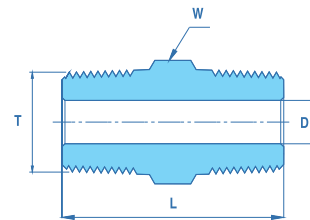


## Close Nipple



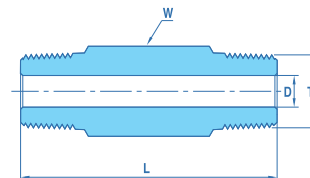
| Ordering Information | T<br>NPT (M) | D    |      | L    |      |
|----------------------|--------------|------|------|------|------|
|                      | inch         | inch | mm   | inch | mm   |
| SS-VHD-M2            | 1/8          | 0.19 | 4.8  | 0.75 | 19.1 |
| SS-VHD-M4            | 1/4          | 0.28 | 7.1  | 1.12 | 28.4 |
| SS-VHD-M6            | 3/8          | 0.38 | 9.6  | 1.12 | 28.4 |
| SS-VHD-M8            | 1/2          | 0.47 | 11.9 | 1.50 | 38.1 |
| SS-VHD-M12           | 3/4          | 0.62 | 15.7 | 1.50 | 38.1 |
| SS-VHD-M16           | 1            | 0.88 | 22.4 | 1.88 | 47.8 |

## Hex Nipple



| Ordering Information | T<br>NPT (M) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|--------------|------|------|-------------------|------|----------------|
|                      | inch         | inch | mm   | inch              | mm   | inch           |
| SS-VAD-M1            | 1/16         | 1.01 | 25.7 | 0.12              | 3.0  | 5/16           |
| SS-VAD-M2            | 1/8          | 1.01 | 25.7 | 0.19              | 4.8  | 7/16           |
| SS-VAD-M4            | 1/4          | 1.40 | 35.6 | 0.28              | 7.1  | 9/16           |
| SS-VAD-M6            | 3/8          | 1.43 | 36.3 | 0.38              | 9.6  | 11/16          |
| SS-VAD-M8            | 1/2          | 1.84 | 46.7 | 0.47              | 11.9 | 7/8            |
| SS-VAD-M12           | 3/4          | 1.84 | 46.7 | 0.62              | 15.8 | 1-1/16         |
| SS-VAD-M16           | 1            | 2.32 | 58.9 | 0.87              | 22.1 | 1-3/8          |

## Hex Long Nipple



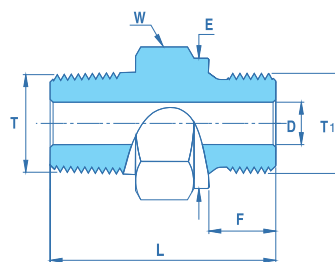
| Ordering Information | T<br>NPT (M) | L      |        |        |        |         |         | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|--------------|--------|--------|--------|--------|---------|---------|-------------------|------|----------------|
|                      | inch         | * 30mm | * 45mm | * 60mm | * 72mm | * 100mm | * 120mm | inch              | mm   | inch           |
| SS-VAD-M2-M2-L*      | 1/8          | √      | √      | √      |        |         |         | 0.19              | 4.8  | 7/16           |
| SS-VAD-M4-M4-L*      | 1/4          | √      | √      | √      | √      | √       | √       | 0.28              | 7.1  | 9/16           |
| SS-VAD-M6-M6-L*      | 3/8          | √      | √      | √      |        |         |         | 0.38              | 9.6  | 1-1/16         |
| SS-VAD-M8-M8-L*      | 1/2          |        | √      |        | √      |         |         | 0.47              | 11.9 | 7/8            |
| SS-VAD-M12-M12-L*    | 3/4          |        |        |        |        | √       |         | 0.62              | 15.8 | 1-1/16         |
| SS-VAD-M16-M16-L*    | 1            |        |        |        |        | √       |         | 0.88              | 22.4 | 1-3/8          |

Dimensions are for reference only and are subject to change without prior notice

# Instrument Pipe Fitting VAD Series

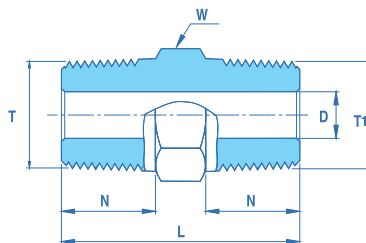


## Hex Nipple NPT To BSPP



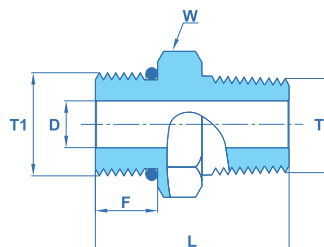
| Ordering Information | T<br>NPT (M) | T1<br>BSPP (M) | L    |      | F    |      | E    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|--------------|----------------|------|------|------|------|------|------|-------------------|------|----------------|
|                      | inch         | inch           | inch | mm   | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAD-M2-MG2        | 1/8          | 1/8-28         | 1.07 | 27.7 | 0.28 | 8.1  | 0.54 | 13.8 | 0.16              | 4.1  | 9/16           |
| SS-VAD-M4-MG4        | 1/4          | 1/4-19         | 1.44 | 36.8 | 0.44 | 11.9 | 0.71 | 18.0 | 0.23              | 5.8  | 3/4            |
| SS-VAD-M6-MG6        | 3/8          | 3/8-19         | 1.47 | 37.3 | 0.44 | 11.9 | 0.85 | 21.8 | 0.31              | 7.9  | 7/8            |
| SS-VAD-M8-MG8        | 1/2          | 1/2-14         | 1.78 | 44.5 | 0.56 | 14.2 | 1.02 | 26.0 | 0.47              | 11.9 | 1-1/16         |
| SS-VAD-M12-MG12      | 3/4          | 3/4-14         | 1.95 | 49.0 | 0.62 | 15.7 | 1.26 | 32.0 | 0.62              | 15.8 | 1-5/16         |
| SS-VAD-M16-MG16      | 1            | 1-11           | 2.26 | 56.6 | 0.72 | 18.3 | 1.53 | 39.0 | 0.78              | 19.8 | 1-5/8          |

## Hex Nipple NPT To BSPT



| Ordering Information | T<br>NPT (M) | T1<br>BSPT (M) | L    |      | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|--------------|----------------|------|------|------|------|-------------------|------|----------------|
|                      | inch         | inch           | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAD-M2-R2         | 1/8          | 1/8-28         | 1.01 | 25.6 | 0.38 | 9.7  | 0.19              | 4.8  | 7/16           |
| SS-VAD-M4-R4         | 1/4          | 1/4-19         | 1.40 | 35.6 | 0.56 | 14.2 | 0.28              | 7.1  | 9/16           |
| SS-VAD-M6-R6         | 3/8          | 3/8-19         | 1.43 | 36.3 | 0.56 | 14.2 | 0.38              | 9.6  | 11/16          |
| SS-VAD-M8-R8         | 1/2          | 1/2-14         | 1.84 | 46.7 | 0.75 | 19.0 | 0.47              | 11.9 | 7/8            |
| SS-VAD-M12-R12       | 3/4          | 3/4-14         | 1.84 | 46.7 | 0.75 | 19.0 | 0.62              | 15.8 | 1-1/16         |
| SS-VAD-M16-R16       | 1            | 1-11           | 2.32 | 58.9 | 0.94 | 23.9 | 0.87              | 22.1 | 1-3/8          |

## Hex Nipple NPT To SAE/MS



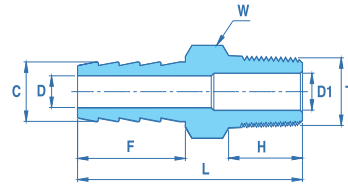
| Ordering Information | T<br>NPT (M) | T1<br>Straight Thread UN | D    |      | L    |      | F    |      | W<br>Hex. Flat |
|----------------------|--------------|--------------------------|------|------|------|------|------|------|----------------|
|                      | inch         | inch                     | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VAD-M4-MA4        | 1/4          | 7/16-20                  | 0.20 | 5.1  | 1.20 | 30.5 | 0.36 | 9.1  | 9/16           |
| SS-VAD-M6-MA6        | 3/8          | 9/16-18                  | 0.28 | 7.1  | 1.26 | 32.0 | 0.39 | 9.9  | 1-1/16         |
| SS-VAD-M8-MA8        | 1/2          | 3/4-16                   | 0.42 | 10.7 | 1.53 | 38.9 | 0.44 | 11.2 | 7/8            |
| SS-VAD-M12-MA12      | 3/4          | 1 1/16-12                | 0.62 | 15.7 | 1.75 | 44.4 | 0.59 | 15.0 | 1-1/4          |
| SS-VAD-M16-MA16      | 1            | 1 5/16-12                | 0.88 | 22.4 | 2.00 | 50.8 | 0.59 | 15.0 | 1-1/2          |

Dimensions are for reference only and are subject to change without prior notice

# Instrument Pipe Fitting VAD Series

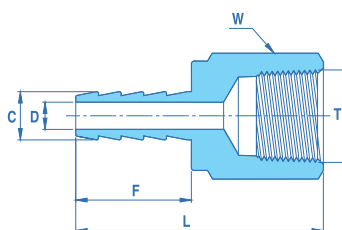


## Male To Hose Connector



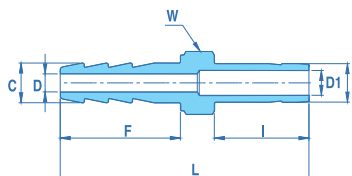
| Ordering Information | Hose I. D. | T<br>NPT (M) | C    |       | D    |      | D1   |      | F    |      | H    |      | L    |      | W<br>Hex. Flat |
|----------------------|------------|--------------|------|-------|------|------|------|------|------|------|------|------|------|------|----------------|
|                      | inch       | inch         | inch | mm    | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VAD-M2-HC2        | 1/8        | 1/8          | 0.15 | 3.80  | 0.08 | 2.0  | 0.19 | 4.80 | 0.40 | 10.2 | 0.38 | 9.70 | 1.08 | 27.4 | 7/16           |
| SS-VAD-M4-HC2        | 1/8        | 1/4          | 0.15 | 3.80  | 0.08 | 2.0  | 0.28 | 7.10 | 0.40 | 10.2 | 0.56 | 14.2 | 1.26 | 32.0 | 9/16           |
| SS-VAD-M2-HC3        | 3/16       | 1/8          | 0.23 | 5.84  | 0.12 | 3.0  | 0.12 | 3.00 | 0.59 | 15.0 | 0.38 | 9.70 | 1.27 | 32.3 | 7/16           |
| SS-VAD-M4-HC3        | 3/16       | 1/4          | 0.23 | 5.84  | 0.12 | 3.0  | 0.28 | 7.10 | 0.59 | 15.0 | 0.56 | 14.2 | 1.45 | 36.8 | 9/16           |
| SS-VAD-M2-HC4        | 1/4        | 1/8          | 0.30 | 7.62  | 0.19 | 4.8  | 0.19 | 4.80 | 0.79 | 20.1 | 0.38 | 9.70 | 1.47 | 37.3 | 7/16           |
| SS-VAD-M4-HC4        | 1/4        | 1/4          | 0.30 | 7.62  | 0.19 | 4.8  | 0.19 | 4.80 | 0.79 | 20.1 | 0.56 | 14.2 | 1.65 | 41.9 | 9/16           |
| SS-VAD-M6-HC4        | 1/4        | 3/8          | 0.30 | 7.62  | 0.19 | 4.8  | 0.19 | 4.80 | 0.79 | 20.1 | 0.56 | 14.2 | 1.66 | 42.2 | 1-1/16         |
| SS-VAD-M8-HC4        | 1/4        | 1/2          | 0.30 | 7.62  | 0.19 | 4.8  | 0.47 | 11.9 | 0.79 | 20.1 | 0.75 | 19.0 | 1.85 | 47.0 | 7/8            |
| SS-VAD-M2-HC5        | 5/16       | 1/8          | 0.38 | 9.65  | 0.19 | 4.8  | 0.19 | 4.80 | 0.87 | 22.1 | 0.38 | 9.70 | 1.55 | 39.4 | 7/16           |
| SS-VAD-M4-HC5        | 5/16       | 1/4          | 0.38 | 9.65  | 0.19 | 4.8  | 0.19 | 4.80 | 0.87 | 22.1 | 0.56 | 14.2 | 1.73 | 43.9 | 9/16           |
| SS-VAD-M6-HC5        | 5/16       | 3/8          | 0.38 | 9.65  | 0.19 | 4.8  | 0.37 | 9.50 | 0.87 | 22.1 | 0.56 | 14.2 | 1.74 | 44.2 | 1-1/16         |
| SS-VAD-M8-HC5        | 5/16       | 1/2          | 0.38 | 9.65  | 0.19 | 4.8  | 0.47 | 11.9 | 0.87 | 22.1 | 0.75 | 19.0 | 1.96 | 49.8 | 7/8            |
| SS-VAD-M4-HC6        | 3/8        | 1/4          | 0.45 | 11.43 | 0.30 | 7.6  | 0.30 | 7.60 | 0.87 | 22.1 | 0.56 | 14.2 | 1.73 | 43.9 | 9/16           |
| SS-VAD-M6-HC6        | 3/8        | 3/8          | 0.45 | 11.43 | 0.30 | 7.6  | 0.30 | 7.60 | 0.87 | 22.1 | 0.56 | 14.2 | 1.74 | 44.2 | 1-1/16         |
| SS-VAD-M8-HC6        | 3/8        | 1/2          | 0.45 | 11.43 | 0.30 | 7.6  | 0.30 | 7.60 | 0.87 | 22.1 | 0.75 | 19.0 | 1.96 | 49.8 | 7/8            |
| SS-VAD-M4-HC8        | 1/2        | 1/4          | 0.60 | 15.24 | 0.37 | 9.5  | 0.28 | 7.10 | 0.94 | 23.8 | 0.56 | 14.2 | 1.80 | 45.7 | 1-1/16         |
| SS-VAD-M6-HC8        | 1/2        | 3/8          | 0.60 | 15.24 | 0.37 | 9.5  | 0.37 | 9.50 | 0.94 | 23.8 | 0.56 | 14.2 | 1.81 | 46.0 | 1-1/16         |
| SS-VAD-M8-HC8        | 1/2        | 1/2          | 0.60 | 15.24 | 0.37 | 9.5  | 0.37 | 9.50 | 0.94 | 23.8 | 0.75 | 19.0 | 2.03 | 51.6 | 7/8            |
| SS-VAD-M8-HC10       | 5/8        | 1/2          | 0.75 | 19.10 | 0.47 | 11.9 | 0.47 | 11.9 | 0.98 | 24.9 | 0.75 | 19.0 | 2.07 | 52.6 | 1-1/16         |
| SS-VAD-M12-HC10      | 5/8        | 3/4          | 0.75 | 19.10 | 0.50 | 12.7 | 0.63 | 16.0 | 0.98 | 24.9 | 0.75 | 19.0 | 2.07 | 52.6 | 1-1/16         |
| SS-VAD-M8-HC12       | 3/4        | 1/2          | 0.90 | 22.86 | 0.63 | 16.0 | 0.47 | 11.9 | 1.05 | 26.7 | 0.75 | 19.0 | 2.14 | 54.4 | 1-1/16         |
| SS-VAD-M12-HC12      | 3/4        | 3/4          | 0.90 | 22.86 | 0.63 | 16.0 | 0.63 | 16.0 | 1.05 | 26.7 | 0.75 | 19.0 | 2.14 | 54.4 | 1-1/16         |
| SS-VAD-M16-HC12      | 3/4        | 1            | 0.90 | 22.86 | 0.63 | 16.0 | 0.88 | 22.4 | 1.05 | 26.7 | 0.94 | 23.9 | 2.43 | 61.7 | 1-3/8          |
| SS-VAD-M12-HC16      | 1          | 3/4          | 1.2  | 30.48 | 0.88 | 22.4 | 0.63 | 16.0 | 1.19 | 30.2 | 0.75 | 19.0 | 2.38 | 60.5 | 1-3/8          |
| SS-VAD-M16-HC16      | 1          | 1            | 1.2  | 30.48 | 0.88 | 22.4 | 0.88 | 22.4 | 1.19 | 30.2 | 0.94 | 23.9 | 2.57 | 65.3 | 1-3/8          |

## Female Hose Connector



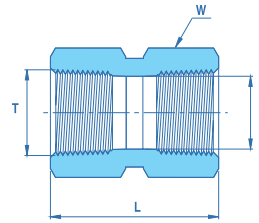
| Ordering Information | Hose I. D. | T<br>NPT | C    |       | D    |      | F    |      | L    |      | W<br>Hex. Flat |
|----------------------|------------|----------|------|-------|------|------|------|------|------|------|----------------|
|                      | inch       | inch     | inch | mm    | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VAD-F2-HC2        | 1/8        | 1/8      | 0.15 | 3.80  | 0.08 | 2.00 | 0.40 | 10.2 | 1.11 | 28.2 | 9/16           |
| SS-VAD-F4-HC2        | 1/8        | 1/4      | 0.15 | 3.80  | 0.08 | 2.00 | 0.40 | 10.2 | 1.26 | 32.0 | 3/4            |
| SS-VAD-F2-HC3        | 3/16       | 1/8      | 0.23 | 5.84  | 0.12 | 3.00 | 0.59 | 15.0 | 1.29 | 32.8 | 9/16           |
| SS-VAD-F4-HC3        | 3/16       | 1/4      | 0.23 | 5.84  | 0.12 | 3.00 | 0.59 | 15.0 | 1.44 | 36.6 | 3/4            |
| SS-VAD-F2-HC4        | 1/4        | 1/8      | 0.30 | 7.62  | 0.19 | 4.80 | 0.79 | 20.1 | 1.47 | 37.3 | 9/16           |
| SS-VAD-F4-HC4        | 1/4        | 1/4      | 0.30 | 7.62  | 0.19 | 4.80 | 0.79 | 20.1 | 1.64 | 41.7 | 3/4            |
| SS-VAD-F6-HC4        | 1/4        | 3/8      | 0.30 | 7.62  | 0.19 | 4.80 | 0.79 | 20.1 | 1.71 | 43.4 | 7/8            |
| SS-VAD-F4-HC5        | 5/16       | 1/4      | 0.38 | 9.65  | 0.19 | 4.80 | 0.87 | 22.1 | 1.73 | 43.9 | 3/4            |
| SS-VAD-F6-HC5        | 5/16       | 3/8      | 0.38 | 9.65  | 0.19 | 4.80 | 0.87 | 22.1 | 1.82 | 46.2 | 7/8            |
| SS-VAD-F4-HC6        | 3/8        | 1/4      | 0.45 | 11.43 | 0.30 | 7.60 | 0.87 | 22.1 | 1.69 | 42.9 | 3/4            |
| SS-VAD-F6-HC6        | 3/8        | 3/8      | 0.45 | 11.43 | 0.30 | 7.60 | 0.87 | 22.1 | 1.78 | 45.2 | 7/8            |
| SS-VAD-F8-HC6        | 3/8        | 1/2      | 0.45 | 11.43 | 0.30 | 7.60 | 0.87 | 22.1 | 2.03 | 51.6 | 1-1/16         |
| SS-VAD-F8-HC8        | 1/2        | 1/2      | 0.60 | 15.24 | 0.38 | 9.70 | 0.94 | 23.9 | 2.13 | 54.1 | 1-1/16         |

## Tube To Hose Connector



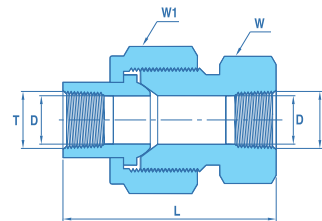
| Ordering Information | Hose I. D. | B<br>NPT | C    |       | D    |      | D1   |      | F    |      | H    |      | L    |      | W<br>Hex. Flat |
|----------------------|------------|----------|------|-------|------|------|------|------|------|------|------|------|------|------|----------------|
|                      | inch       | inch     | inch | mm    | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VOF-H02-02        | 1/8        | 1/8      | 0.15 | 3.80  | 0.08 | 2.00 | 0.08 | 2.00 | 0.40 | 10.2 | 0.53 | 13.5 | 1.35 | 34.3 | 5/16           |
| SS-VOF-H02-04        | 1/8        | 1/4      | 0.15 | 3.80  | 0.08 | 2.00 | 0.17 | 4.20 | 0.40 | 10.2 | 0.62 | 15.7 | 1.44 | 36.6 | 3/8            |
| SS-VOF-H04-04        | 1/4        | 1/4      | 0.30 | 7.62  | 0.19 | 4.80 | 0.17 | 4.20 | 0.79 | 20.1 | 0.62 | 15.7 | 1.83 | 46.5 | 7/16           |
| SS-VOF-H04-06        | 1/4        | 3/8      | 0.30 | 7.62  | 0.19 | 4.80 | 0.27 | 6.85 | 0.79 | 20.1 | 0.69 | 17.5 | 1.90 | 48.3 | 7/16           |
| SS-VOF-H04-6M        | 1/4        | 6mm      | 0.30 | 7.62  | 0.19 | 4.80 | 0.16 | 4.00 | 0.79 | 20.1 | 0.62 | 15.7 | 1.86 | 47.2 | 7/16           |
| SS-VOF-H05-04        | 5/16       | 1/4      | 0.37 | 9.40  | 0.19 | 4.80 | 0.17 | 4.20 | 0.87 | 22.1 | 0.62 | 15.7 | 1.91 | 48.5 | 7/16           |
| SS-VOF-H06-06        | 3/8        | 3/8      | 0.45 | 11.43 | 0.30 | 7.60 | 0.27 | 6.85 | 0.87 | 22.1 | 0.69 | 17.5 | 1.98 | 50.3 | 9/16           |
| SS-VOF-H06-08        | 3/8        | 1/2      | 0.45 | 11.43 | 0.30 | 7.60 | 0.37 | 9.40 | 0.87 | 22.1 | 0.91 | 23.1 | 2.20 | 55.9 | 5/8            |
| SS-VOF-H08-06        | 1/2        | 3/8      | 0.60 | 15.24 | 0.38 | 9.70 | 0.27 | 6.85 | 0.94 | 23.9 | 0.69 | 17.5 | 2.05 | 52.1 | 11/16          |
| SS-VOF-H08-08        | 1/2        | 1/2      | 0.60 | 15.24 | 0.38 | 9.70 | 0.37 | 9.40 | 0.94 | 23.9 | 0.91 | 23.1 | 2.27 | 57.7 | 11/16          |
| SS-VOF-H12-12        | 3/4        | 3/4      | 0.90 | 22.86 | 0.63 | 16.0 | 0.59 | 15.0 | 1.85 | 26.7 | 0.97 | 24.6 | 24.4 | 62.0 | 1-1/16         |

### Hex Coupling



| Ordering Information | T<br>NPT(F) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           |
| SS-VAU-F2            | 1/8         | 0.81 | 20.6 | 0.31              | 8.6  | 9/16           |
| SS-VAU-F4            | 1/4         | 1.19 | 30.2 | 0.41              | 11.4 | 3/4            |
| SS-VAU-F6            | 3/8         | 1.31 | 33.3 | 0.56              | 15.0 | 7/8            |
| SS-VAU-F8            | 1/2         | 1.56 | 39.6 | 0.69              | 18.5 | 1-1/16         |
| SS-VAU-F12           | 3/4         | 1.62 | 41.1 | 0.90              | 23.9 | 1-5/16         |
| SS-VAU-F16           | 1           | 2.00 | 50.8 | 1.13              | 29.7 | 1-5/8          |

### Union Ball Joint

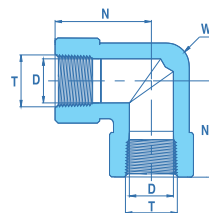


| Ordering Information | T<br>NPT(F) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |       | W1<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|-------|-----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           | mm    | inch            |
| SS-VBJ-F2            | 1/8         | 1.81 | 46.0 | 0.27              | 6.9  | 15/16          | 23.81 | 1-1/8           |
| SS-VBJ-F4            | 1/4         | 2.34 | 59.4 | 0.36              | 9.1  | 1-3/16         | 30.16 | 1-3/8           |
| SS-VBJ-F6            | 3/8         | 2.50 | 63.5 | 0.52              | 13.2 | 1-5/16         | 33.34 | 1-1/2           |
| SS-VBJ-F8            | 1/2         | 2.69 | 68.3 | 0.62              | 15.7 | 1-5/8          | 41.28 | 1-3/4           |
| SS-VBJ-F12           | 3/4         | 3.12 | 79.2 | 0.87              | 22.1 | 1-7/8          | 47.63 | 2-1/8           |
| SS-VBJ-F16           | 1           | 3.56 | 90.4 | 1.03              | 26.2 | 2-3/8          | 60.33 | 2-1/2           |

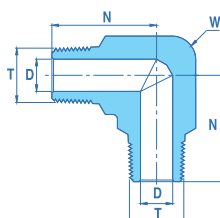
# Instrument Pipe Fitting VAE Series



## Elbow

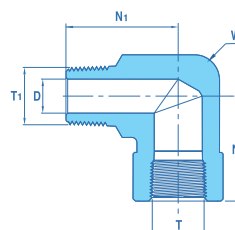


| Ordering Information | T<br>NPT(F) | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           |
| SS-VAE-F2-F2         | 1/8         | 1.04 | 26.4 | 0.31              | 8.6  | 1/2            |
| SS-VAE-F4-F4         | 1/4         | 1.17 | 29.7 | 0.41              | 11.4 | 11/16          |
| SS-VAE-F6-F6         | 3/8         | 1.42 | 36.1 | 0.56              | 15.0 | 13/16          |
| SS-VAE-F8-F8         | 1/2         | 1.56 | 39.6 | 0.69              | 18.5 | 1              |
| SS-VAE-F12-F12       | 3/4         | 1.92 | 48.8 | 0.90              | 23.9 | 1-1/4          |
| SS-VAE-F16-F16       | 1           | 1.91 | 48.5 | 1.13              | 29.7 | 1-11/16        |



## Male Elbow

| Ordering Information | T<br>NPT(M) | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           |
| SS-VAE-M2-M2         | 1/8         | 0.88 | 22.4 | 0.19              | 4.8  | 7/16           |
| SS-VAE-M4-M4         | 1/4         | 1.05 | 26.7 | 0.28              | 7.1  | 1/2            |
| SS-VAE-M6-M6         | 3/8         | 1.17 | 29.7 | 0.38              | 9.6  | 11/16          |
| SS-VAE-M8-M8         | 1/2         | 1.45 | 36.8 | 0.47              | 11.9 | 13/16          |



## Street Elbow

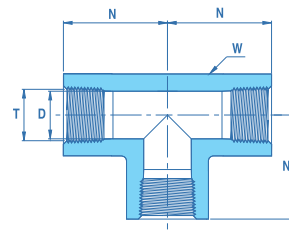
| Ordering Information | T<br>NPT(F) | T1<br>NPT(M) | N    |      | N1   |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|--------------|------|------|------|------|-------------------|------|----------------|
|                      | inch        | inch         | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAE-F1-M1         | 1/16        | 1/16         | 0.86 | 21.8 | 0.88 | 22.4 | 0.12              | 3.10 | 7/16           |
| SS-VAE-F2-M1         | 1/8         | 1/16         | 1.04 | 26.4 | 0.87 | 22.1 | 0.12              | 3.10 | 1/2            |
| SS-VAE-F2-M2         | 1/8         | 1/8          | 1.04 | 26.4 | 0.87 | 22.1 | 0.19              | 4.80 | 1/2            |
| SS-VAE-F4-M2         | 1/4         | 1/8          | 1.17 | 29.7 | 1.00 | 25.4 | 0.19              | 4.80 | 11/16          |
| SS-VAE-F4-M4         | 1/4         | 1/4          | 1.17 | 29.7 | 1.17 | 29.7 | 0.28              | 7.10 | 11/16          |
| SS-VAE-F6-M4         | 3/8         | 1/4          | 1.42 | 36.1 | 1.26 | 32.0 | 0.28              | 7.10 | 13/16          |
| SS-VAE-F6-M6         | 3/8         | 3/8          | 1.42 | 36.1 | 1.26 | 32.0 | 0.38              | 9.60 | 13/16          |
| SS-VAE-F8-M4         | 1/2         | 1/4          | 1.56 | 39.6 | 1.38 | 35.1 | 0.28              | 7.10 | 1              |
| SS-VAE-F8-M6         | 1/2         | 3/8          | 1.56 | 39.6 | 1.38 | 35.1 | 0.38              | 9.60 | 1              |
| SS-VAE-F8-M8         | 1/2         | 1/2          | 1.56 | 39.6 | 1.56 | 39.6 | 0.47              | 11.9 | 1              |
| SS-VAE-F12-M12       | 3/4         | 3/4          | 1.92 | 48.8 | 1.67 | 42.4 | 0.62              | 15.8 | 1-1/4          |
| SS-VAE-F16-M16       | 1           | 1            | 1.83 | 48.5 | 1.94 | 49.3 | 0.86              | 22.4 | 1-11/16        |

Dimensions are for reference only and are subject to change without prior notice

# Instrument Pipe Fitting VAT Series

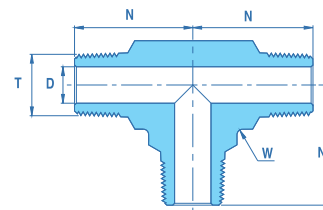


## Tee



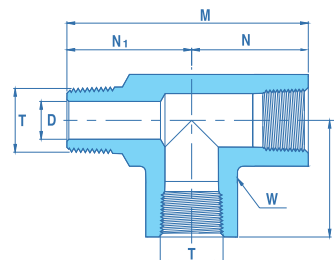
| Ordering Information | T<br>NPT(F) | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           |
| SS-VAT-F2            | 1/8         | 1.04 | 26.4 | 0.31              | 8.6  | 1/2            |
| SS-VAT-F4            | 1/4         | 1.17 | 29.7 | 0.41              | 11.4 | 11/16          |
| SS-VAT-F6            | 3/8         | 1.42 | 36.1 | 0.56              | 15.0 | 13/16          |
| SS-VAT-F8            | 1/2         | 1.56 | 39.6 | 0.69              | 18.5 | 1              |
| SS-VAT-F12           | 3/4         | 1.92 | 48.8 | 0.90              | 23.9 | 1-1/4          |
| SS-VAT-F16           | 1           | 1.91 | 48.5 | 1.13              | 29.7 | 1-11/16        |

## Male Tee



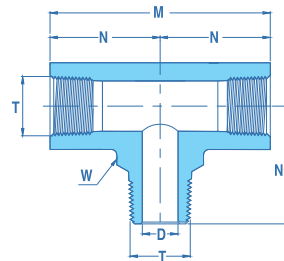
| Ordering Information | T<br>NPT(M) | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch              | mm   | inch           |
| SS-VAT-M2            | 1/8         | 0.88 | 22.4 | 0.19              | 4.8  | 7/16           |
| SS-VAT-M4            | 1/4         | 1.05 | 26.7 | 0.28              | 7.1  | 1/2            |
| SS-VAT-M6            | 3/8         | 1.17 | 29.7 | 0.38              | 9.6  | 11/16          |
| SS-VAT-M8            | 1/2         | 1.45 | 36.8 | 0.47              | 11.9 | 13/16          |

## Street Tee



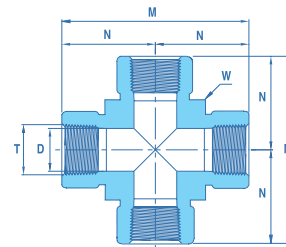
| Ordering Information | T<br>NPT( M/F ) | M    |      | N    |      | N1   |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-----------------|------|------|------|------|------|------|-------------------|------|----------------|
|                      | inch            | inch | mm   | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAT-F2-M2-TF2     | 1/8             | 1.91 | 48.5 | 1.04 | 26.4 | 0.87 | 22.1 | 0.19              | 4.8  | 1/2            |
| SS-VAT-F4-M4-TF4     | 1/4             | 2.34 | 59.4 | 1.17 | 29.7 | 1.17 | 29.7 | 0.28              | 7.1  | 11/16          |
| SS-VAT-F6-M6-TF6     | 3/8             | 2.68 | 68.1 | 1.42 | 36.1 | 1.26 | 32.0 | 0.38              | 9.6  | 13/16          |
| SS-VAT-F8-M8-TF8     | 1/2             | 3.12 | 79.2 | 1.56 | 39.6 | 1.56 | 39.6 | 0.47              | 11.9 | 1              |

## Branch Tee



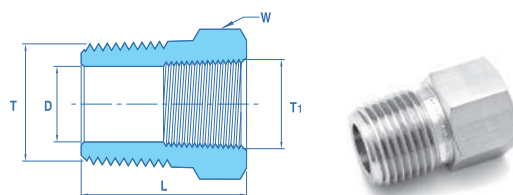
| Ordering Information | T<br>NPT( M/F ) | M    |      | N    |      | N1   |      | D    |      | W<br>Hex. Flat |
|----------------------|-----------------|------|------|------|------|------|------|------|------|----------------|
|                      | inch            | inch | mm   | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VAT-F2-TM2        | 1/8             | 2.08 | 52.8 | 1.04 | 26.4 | 0.87 | 22.1 | 0.19 | 4.8  | 1/2            |
| SS-VAT-F4-TM4        | 1/4             | 2.34 | 59.4 | 1.17 | 29.7 | 1.17 | 29.7 | 0.28 | 7.1  | 11/16          |
| SS-VAT-F6-TM6        | 3/8             | 2.84 | 72.1 | 1.42 | 36.1 | 1.26 | 32.0 | 0.38 | 9.6  | 13/16          |
| SS-VAT-F8-TM8        | 1/2             | 3.12 | 79.2 | 1.56 | 39.6 | 1.56 | 39.6 | 0.47 | 11.9 | 1              |

## Cross



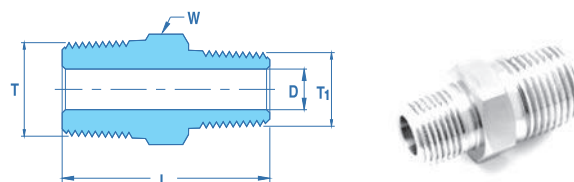
| Ordering Information | T<br>NPT(F) | N    |      | M    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|------|------|-------------------|------|----------------|
|                      | inch        | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAC-F2            | 1/8         | 1.04 | 26.4 | 2.08 | 52.8 | 0.31              | 8.6  | 1/2            |
| SS-VAC-F4            | 1/4         | 1.17 | 29.7 | 2.34 | 59.4 | 0.41              | 11.4 | 11/16          |
| SS-VAC-F6            | 3/8         | 1.42 | 36.1 | 2.84 | 72.2 | 0.56              | 15.0 | 13/16          |
| SS-VAC-F8            | 1/2         | 1.56 | 39.6 | 3.12 | 79.2 | 0.69              | 18.5 | 1              |
| SS-VAC-F12           | 3/4         | 1.92 | 48.8 | 3.84 | 97.6 | 0.90              | 23.9 | 1-1/4          |
| SS-VAC-F16           | 1           | 1.91 | 48.5 | 3.82 | 97.0 | 1.13              | 29.7 | 1-11/16        |

## Reducing Bushing



| Ordering Information | T<br>NPT(M) | T1<br>NPT(F) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|--------------|------|------|-------------------|------|----------------|
|                      | inch        | inch         | inch | mm   | inch              | mm   | inch           |
| SS-VARU-M2-F1        | 1/8         | 1/16         | 1.03 | 26.2 | 0.19              | 4.8  | 7/16           |
| SS-VARU-M4-F2        | 1/4         | 1/8          | 1.06 | 26.9 | 0.28              | 7.1  | 9/16           |
| SS-VARU-M6-F2        | 3/8         | 1/8          | 0.86 | 21.8 | 0.34              | 8.6  | 11/16          |
| SS-VARU-M6-F4        | 3/8         | 1/4          | 1.19 | 30.2 | 0.38              | 9.6  | 3/4            |
| SS-VARU-M8-F2        | 1/2         | 1/8          | 1.08 | 27.4 | 0.34              | 8.6  | 7/8            |
| SS-VARU-M8-F4        | 1/2         | 1/4          | 1.08 | 27.4 | 0.41              | 10.5 | 7/8            |
| SS-VARU-M8-F6        | 1/2         | 3/8          | 1.41 | 35.8 | 0.47              | 11.9 | 7/8            |
| SS-VARU-M12-F4       | 3/4         | 1/4          | 1.08 | 27.4 | 0.45              | 11.4 | 1-1/16         |
| SS-VARU-M12-F6       | 3/4         | 3/8          | 1.08 | 27.4 | 0.56              | 14.2 | 1-1/16         |
| SS-VARU-M12-F8       | 3/4         | 1/2          | 1.63 | 41.4 | 0.62              | 15.7 | 1-1/16         |
| SS-VARU-M16-F4       | 1           | 1/4          | 1.37 | 34.8 | 0.41              | 10.5 | 1-3/8          |
| SS-VARU-M16-F6       | 1           | 3/8          | 1.37 | 34.8 | 0.56              | 14.2 | 1-3/8          |
| SS-VARU-M16-F8       | 1           | 1/2          | 1.37 | 34.8 | 0.69              | 17.4 | 1-3/8          |
| SS-VARU-M16-F12      | 1           | 3/4          | 1.85 | 47.0 | 0.87              | 22.1 | 1-3/8          |

## Reducing Nipple

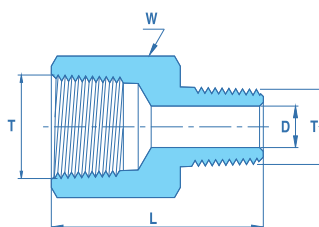


| Ordering Information | T<br>NPT(M) | T1<br>NPT(M) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|--------------|------|------|-------------------|------|----------------|
|                      | inch        | inch         | inch | mm   | inch              | mm   | inch           |
| SS-VAD-M2-M1         | 1/8         | 1/16         | 1.01 | 25.7 | 0.12              | 3.0  | 7/16           |
| SS-VAD-M4-M2         | 1/4         | 1/8          | 1.22 | 31.0 | 0.19              | 4.8  | 9/16           |
| SS-VAD-M6-M2         | 3/8         | 1/8          | 1.25 | 31.8 | 0.19              | 4.8  | 1-1/16         |
| SS-VAD-M6-M4         | 3/8         | 1/4          | 1.43 | 36.3 | 0.28              | 7.1  | 1-1/16         |
| SS-VAD-M8-M1         | 1/2         | 1/8          | 1.47 | 37.3 | 0.19              | 4.8  | 7/8            |
| SS-VAD-M8-M4         | 1/2         | 1/4          | 1.65 | 41.9 | 0.28              | 7.1  | 7/8            |
| SS-VAD-M8-M6         | 1/2         | 3/8          | 1.65 | 41.9 | 0.38              | 9.6  | 7/8            |
| SS-VAD-M12-M4        | 3/4         | 1/4          | 1.65 | 41.9 | 0.28              | 7.1  | 1-1/16         |
| SS-VAD-M12-M8        | 3/4         | 1/2          | 1.84 | 46.7 | 0.47              | 11.9 | 1-1/16         |
| SS-VAD-M16-M8        | 1           | 1/2          | 2.13 | 54.1 | 0.47              | 11.9 | 1-3/8          |
| SS-VAD-M16-M12       | 1           | 3/4          | 2.13 | 54.1 | 0.62              | 15.8 | 1-3/8          |

# Instrument Pipe Fitting VAD Series



## Adapter NPT



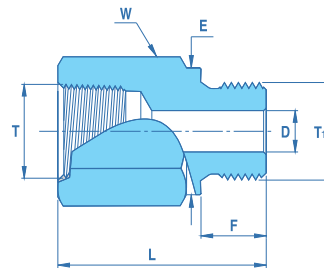
| Ordering Information | T<br>NPT(F) | T1<br>NPT(M) | L    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|--------------|------|------|-------------------|------|----------------|
|                      | inch        | inch         | inch | mm   | inch              | mm   | inch           |
| SS-VAD-F2-M1         | 1/8         | 1/16         | 1.09 | 27.7 | 0.12              | 3.0  | 9/16           |
| SS-VAD-F2-M2         | 1/8         | 1/8          | 1.10 | 27.9 | 0.19              | 4.8  | 9/16           |
| SS-VAD-F4-M2         | 1/4         | 1/8          | 1.26 | 32.0 | 0.19              | 4.8  | 3/4            |
| SS-VAD-F4-M4         | 1/4         | 1/4          | 1.40 | 35.6 | 0.28              | 7.1  | 3/4            |
| SS-VAD-F6-M2         | 3/8         | 1/8          | 1.33 | 33.8 | 0.19              | 4.8  | 7/8            |
| SS-VAD-F6-M4         | 3/8         | 1/4          | 1.50 | 38.1 | 0.28              | 7.1  | 7/8            |
| SS-VAD-F6-M6         | 3/8         | 3/8          | 1.51 | 38.4 | 0.38              | 9.6  | 7/8            |
| SS-VAD-F8-M2         | 1/2         | 1/8          | 1.58 | 40.1 | 0.19              | 4.8  | 1-1/16         |
| SS-VAD-F8-M4         | 1/2         | 1/4          | 1.76 | 44.7 | 0.28              | 7.1  | 1-1/16         |
| SS-VAD-F8-M6         | 1/2         | 3/8          | 1.75 | 44.5 | 0.37              | 9.5  | 1-1/16         |
| SS-VAD-F8-M8         | 1/2         | 1/2          | 1.94 | 49.3 | 0.47              | 11.9 | 1-1/16         |
| SS-VAD-F12-M4        | 3/4         | 1/4          | 1.85 | 47.0 | 0.28              | 7.1  | 1-5/16         |
| SS-VAD-F12-M6        | 3/4         | 3/8          | 1.82 | 46.2 | 0.37              | 9.5  | 1-5/16         |
| SS-VAD-F12-M8        | 3/4         | 1/2          | 2.02 | 51.3 | 0.47              | 11.9 | 1-5/16         |
| SS-VAD-F12-M12       | 3/4         | 3/4          | 2.02 | 51.3 | 0.62              | 15.8 | 1-5/16         |
| SS-VAD-F16-M4        | 1           | 1/4          | 1.96 | 49.8 | 0.28              | 7.1  | 1-5/8          |
| SS-VAD-F16-M8        | 1           | 1/2          | 2.16 | 54.9 | 0.47              | 11.9 | 1-5/8          |
| SS-VAD-F16-M12       | 1           | 3/4          | 2.17 | 55.1 | 0.62              | 15.7 | 1-5/8          |
| SS-VAD-F16-M16       | 1           | 1            | 2.28 | 57.9 | 0.86              | 21.8 | 1-5/8          |

Dimensions are for reference only and are subject to change without prior notice

# Instrument Pipe Fitting VAD Series

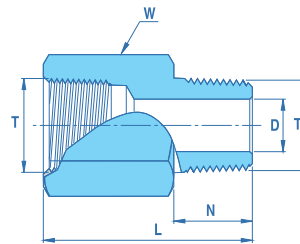


## Adapter NPT To BSPP



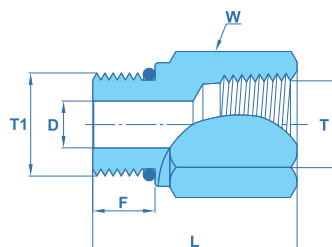
| Ordering Information | T<br>NPT(F) | T1<br>BSPP(M) | L    |      | F    |      | E<br>Dia. |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|---------------|------|------|------|------|-----------|------|-------------------|------|----------------|
|                      | inch        | inch          | inch | mm   | inch | mm   | inch      | mm   | inch              | mm   | inch           |
| SS-VAD-F2-MG2        | 1/8         | 1/8-28        | 0.99 | 25.1 | 0.28 | 7.1  | 0.54      | 13.8 | 0.16              | 4.1  | 9/16           |
| SS-VAD-F4-MG4        | 1/4         | 1/4-19        | 1.32 | 33.5 | 0.44 | 11.2 | 0.70      | 18.0 | 0.23              | 5.8  | 3/4            |
| SS-VAD-F6-MG6        | 3/8         | 3/8-19        | 1.41 | 35.8 | 0.44 | 11.2 | 0.85      | 21.8 | 0.31              | 7.9  | 7/8            |
| SS-VAD-F8-MG8        | 1/2         | 1/2-14        | 1.74 | 44.2 | 0.56 | 14.2 | 1.02      | 26.0 | 0.47              | 11.9 | 1-1/16         |
| SS-VAD-F12-MG12      | 3/4         | 3/4-14        | 1.89 | 48.0 | 0.62 | 15.7 | 1.26      | 32.0 | 0.62              | 15.7 | 1-5/16         |
| SS-VAD-F16-MG16      | 1           | 1-11          | 2.10 | 53.3 | 0.72 | 18.3 | 1.53      | 39.0 | 0.78              | 19.8 | 1-5/8          |

## Adapter NPT To BSPT



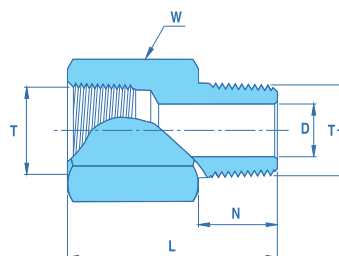
| Ordering Information | T<br>NPT(F) | T1<br>BSPT(F) | L    |      | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|-------------|---------------|------|------|------|------|-------------------|------|----------------|
|                      | inch        | inch          | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAD-F2-MR2        | 1/8         | 1/8-28        | 1.09 | 27.7 | 0.38 | 9.7  | 0.19              | 4.8  | 9/16           |
| SS-VAD-F4-MR4        | 1/4         | 1/4-19        | 1.42 | 36.1 | 0.56 | 14.2 | 0.28              | 7.1  | 3/4            |
| SS-VAD-F6-MR6        | 3/8         | 3/8-19        | 1.50 | 38.1 | 0.56 | 14.2 | 0.38              | 9.6  | 7/8            |
| SS-VAD-F8-MR8        | 1/2         | 1/2-14        | 1.94 | 49.3 | 0.75 | 19.0 | 0.47              | 11.9 | 1-1/16         |
| SS-VAD-F12-MR12      | 3/4         | 3/4-14        | 2.02 | 51.3 | 0.75 | 19.0 | 0.62              | 15.8 | 1-5/16         |
| SS-VAD-F16-MR16      | 1           | 1-11          | 2.30 | 58.4 | 0.94 | 23.9 | 0.88              | 22.4 | 1-5/8          |

## Adapter NPT To SAE / MS



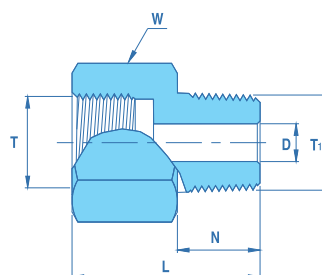
| Ordering Information | T<br>NPT(F) | T1<br>Straight Thread UN | D    |      | L    |      | F    |      | W<br>Hex. Flat |
|----------------------|-------------|--------------------------|------|------|------|------|------|------|----------------|
|                      | inch        | inch                     | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VAD-F4-MA4        | 1/4         | 7/16-20                  | 0.20 | 5.1  | 1.32 | 33.5 | 0.36 | 9.1  | 3/4            |
| SS-VAD-F6-MA6        | 3/8         | 9/16-18                  | 0.28 | 7.1  | 1.39 | 35.3 | 0.39 | 9.9  | 15/16          |
| SS-VAD-F8-MA8        | 1/2         | 3/4-16                   | 0.42 | 10.7 | 1.76 | 44.7 | 0.44 | 11.2 | 1-1/16         |
| SS-VAD-F12-MA12      | 3/4         | 1-1/16-12                | 0.66 | 16.7 | 1.99 | 50.5 | 0.59 | 15.0 | 1-3/8          |
| SS-VAD-F16-MA16      | 1           | 1-5/16-12                | 0.88 | 22.3 | 2.12 | 53.8 | 0.59 | 15.0 | 1-5/8          |

## Adapter BSPT To NPT



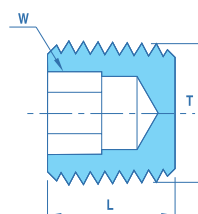
| Ordering Information | T<br>BSPT(F) | T1<br>NPT(M) | L    |      | N    |      | D<br>Min. Opening |      | W<br>Hex. Flat |
|----------------------|--------------|--------------|------|------|------|------|-------------------|------|----------------|
|                      | inch         | inch         | inch | mm   | inch | mm   | inch              | mm   | inch           |
| SS-VAD-FR4-M4        | 1/4-19       | 1/4          | 1.43 | 36.3 | 0.56 | 14.2 | 0.28              | 7.1  | 3/4            |
| SS-VAD-FR6-M6        | 3/8-19       | 3/8          | 1.51 | 38.4 | 0.56 | 14.2 | 0.38              | 9.6  | 7/8            |
| SS-VAD-FR8-M8        | 1/2-14       | 1/2          | 1.96 | 49.8 | 0.75 | 19.0 | 0.47              | 11.9 | 1-1/16         |

## Adapter Adapter BSPP To NPT



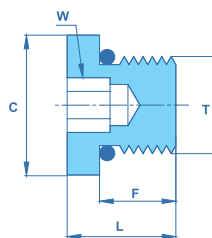
| Ordering Information | T<br>BSPP(F) | T1<br>NPT(M) | L    |      | N    |      | D<br>Min. Opening |     | W<br>Hex. Flat |
|----------------------|--------------|--------------|------|------|------|------|-------------------|-----|----------------|
|                      | inch         | inch         | inch | mm   | inch | mm   | inch              | mm  | inch           |
| SS-VAD-FG4-M4        | 1/4-19       | 1/4          | 1.19 | 30.2 | 0.56 | 14.2 | 0.22              | 5.6 | 3/4            |
| SS-VAD-FG6-M6        | 3/8-19       | 3/8          | 1.27 | 32.3 | 0.56 | 14.2 | 0.26              | 6.6 | 15/16          |
| SS-VAD-FG8-M8        | 1/2-14       | 1/2          | 1.65 | 41.9 | 0.75 | 19.0 | 0.28              | 7.1 | 1-1/16         |

## Hollow Hex Plugs



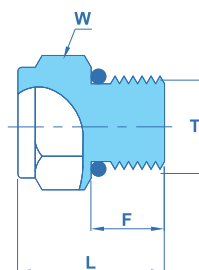
| Ordering Information | T<br>NPT(M) | L    |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|----------------|
|                      | inch        | inch | mm   | inch           |
| SS-VHP-M2            | 1/8         | 0.29 | 7.4  | 3/16           |
| SS-VHP-M4            | 1/4         | 0.44 | 11.3 | 1/4            |
| SS-VHP-M6            | 3/8         | 0.44 | 11.3 | 5/16           |
| SS-VHP-M8            | 1/2         | 0.61 | 15.5 | 3/8            |

## Hollow Hex Plugs SAE / MS



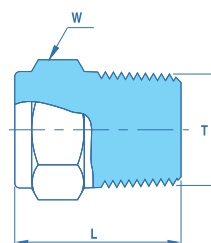
| Ordering Information | T<br>Straight Thread UN | L    |      | F    |      | C    |      | W<br>Hex. Flat |
|----------------------|-------------------------|------|------|------|------|------|------|----------------|
|                      | inch                    | inch | mm   | inch | mm   | inch | mm   | inch           |
| SS-VHP-A4            | 7/16-20                 | 0.45 | 11.4 | 0.36 | 9.1  | 0.56 | 14.2 | 3/16           |
| SS-VHP-A6            | 9/16-18                 | 0.48 | 12.2 | 0.39 | 9.9  | 0.69 | 17.5 | 1/4            |
| SS-VHP-A8            | 3/4-16                  | 0.56 | 14.2 | 0.44 | 11.2 | 0.88 | 22.4 | 5/16           |

## Hex Head Plug SAE / MS



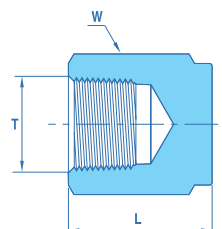
| Ordering Information | T<br>Straight Thread UN | L    |      | P    |      | W<br>Hex. Flat |
|----------------------|-------------------------|------|------|------|------|----------------|
|                      | inch                    | inch | mm   | inch | mm   | inch           |
| SS-VHPG-A2           | 5/16-24                 | 0.70 | 17.8 | 0.30 | 7.6  | 7/16           |
| SS-VHPG-A4           | 7/16-20                 | 0.76 | 19.3 | 0.36 | 9.1  | 9/16           |
| SS-VHPG-A6           | 9/16-18                 | 0.82 | 20.8 | 0.39 | 9.9  | 1-1/16         |
| SS-VHPG-A8           | 3/4-16                  | 0.89 | 22.6 | 0.44 | 11.2 | 7/8            |
| SS-VHPG-A12          | 1-1/16-12               | 1.12 | 28.4 | 0.59 | 15.0 | 1-1/4          |
| SS-VHPG-A16          | 1-5/16-12               | 1.18 | 30.0 | 0.59 | 15.0 | 1-1/2          |

## Pipe Plug NPT



| Ordering Information | T<br>NPT(M) | L    |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|----------------|
|                      | inch        | inch | mm   | inch           |
| SS-VHPG-M1           | 1/16        | 0.75 | 19.0 | 5/16           |
| SS-VHPG-M2           | 1/8         | 0.75 | 19.0 | 7/16           |
| SS-VHPG-M4           | 1/4         | 0.96 | 24.4 | 9/16           |
| SS-VHPG-M6           | 3/8         | 0.99 | 25.2 | 11/16          |
| SS-VHPG-M8           | 1/2         | 1.21 | 30.7 | 7/8            |
| SS-VHPG-M12          | 3/4         | 1.21 | 30.7 | 1-1/16         |
| SS-VHPG-M16          | 1           | 1.50 | 38.1 | 1-3/8          |

## Pipe Plug NPT



| Ordering Information | T<br>NPT(F) | L    |      | W<br>Hex. Flat |
|----------------------|-------------|------|------|----------------|
|                      | inch        | inch | mm   | inch           |
| SS-VHC-F2            | 1/8         | 0.75 | 19.1 | 9/16           |
| SS-VHC-F4            | 1/4         | 0.91 | 23.1 | 3/4            |
| SS-VHC-F6            | 3/8         | 1.03 | 26.2 | 7/8            |
| SS-VHC-F8            | 1/2         | 1.34 | 34.0 | 1-1/16         |
| SS-VHC-F12           | 3/4         | 1.44 | 36.6 | 1-5/16         |
| SS-VHC-F16           | 1           | 1.62 | 41.1 | 1-5/8          |



