

# Stainless Steel 316 Insert Fittings

Applicable Tube: Metric Size, Connection Thread: R, Rc

## Series **KFG2**

RoHS



### Applicable Tube

|                                |                                                                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tube material <sup>Note)</sup> | FEP, PFA, Modified PTFE, Nylon, Soft nylon <sup>Note)</sup> , Polyurethane, Soft polyurethane, Polyolefin, Soft polyolefin, Antistatic soft nylon, Antistatic polyurethane, Hard polyurethane |
| Tube size                      | ø4 x ø2.5, ø4 x ø3, ø6 x ø4, ø8 x ø6, ø10 x ø7.5, ø10 x ø8, ø12 x ø9, ø12 x ø10, ø16 x ø13                                                                                                    |

Note) For soft nylon tube, soft polyurethane tube, hard polyurethane tube, antistatic polyurethane tube, water cannot be used.

| Series | Tube material                     | Tube O.D. x I.D. (mm) |         |         |         |            |          |          |           |           |
|--------|-----------------------------------|-----------------------|---------|---------|---------|------------|----------|----------|-----------|-----------|
|        |                                   | ø4 x ø2.5             | ø4 x ø3 | ø6 x ø4 | ø8 x ø6 | ø10 x ø7.5 | ø10 x ø8 | ø12 x ø9 | ø12 x ø10 | ø16 x ø13 |
| TH     | FEP                               | ●                     | —       | ●       | ●       | —          | ●        | —        | ●         | —         |
| TL     | PFA                               | —                     | ●       | ●       | ●       | —          | ●        | —        | ●         | —         |
| TD     | Modified PTFE                     | ●                     | —       | ●       | ●       | —          | ●        | —        | —         | —         |
| T      | Nylon                             | ●                     | ●       | ●       | ●       | —          | —        | ●        | —         | ●         |
| TS     | Soft nylon                        | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TU     | Polyurethane                      | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TPH    | Polyolefin                        | ●                     | —       | ●       | ●       | —          | —        | —        | —         | —         |
| TUS    | Soft polyurethane                 | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TUH    | Hard polyurethane (High pressure) | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TPS    | Soft polyolefin                   | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TAS    | Antistatic soft nylon             | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |
| TAU    | Antistatic polyurethane           | ●                     | —       | ●       | —       | —          | —        | —        | —         | —         |

### Spare Parts

| Description  | Tube O.D. | Part no.   | Material                            |
|--------------|-----------|------------|-------------------------------------|
| Bulkhead nut | ø4        | KFG204-P01 | Stainless steel 316 (Fluoro coated) |
|              | ø6        | KFG206-P01 |                                     |
|              | ø8        | KFG208-P01 |                                     |
|              | ø10       | KFG210-P01 |                                     |
|              | ø12       | KFG212-P01 |                                     |
|              | ø16       | KFG216-P01 |                                     |

### Specifications

|                                             |                                                                                                     |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Fluid                                       | Air, Water, Steam <sup>Note 2)</sup> <sup>Note 3)</sup>                                             |
| Operating pressure range <sup>Note 1)</sup> | –100 kPa to 1 MPa <sup>Note 4)</sup>                                                                |
| Proof pressure                              | 3.0 MPa                                                                                             |
| Ambient and fluid temperature               | –65 to 260°C (No freezing) <sup>Note 4)</sup><br>[Swivel elbow and with sealant types: –5 to 150°C] |
| Lubricant                                   | Grease-free specification                                                                           |
| Seal on the threads                         | Without sealant (With sealant type compatible) <sup>Note 5)</sup>                                   |

Note 1) Avoid using in a vacuum holding application such as a leak tester, since there is leakage.

Note 2) Consult with SMC regarding applicable tube separately.

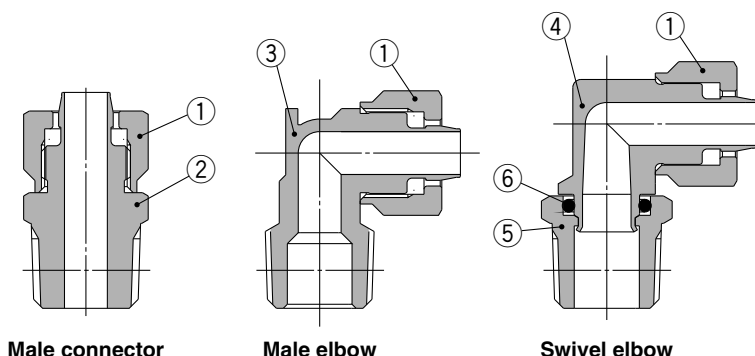
Note 3) Using special FKM that is resistant even when steam is used.

Note 4) Check the operating pressure range and operating temperature range of the tube.

Note 5) With sealant: Suffix "S" to the end of part number.

Note 6) Union nut is shipped together.

### Construction



### Principal Parts Material

| No. | Description         | Material            | Note          |
|-----|---------------------|---------------------|---------------|
| 1   | Union nut           | Stainless steel 316 | Fluoro coated |
| 2   | Male connector body | Stainless steel 316 |               |
| 3   | Male elbow body     | Stainless steel 316 |               |
| 4   | Swivel elbow body   | Stainless steel 316 |               |
| 5   | Stud                | Stainless steel 316 |               |
| 6   | O-ring              | Special FKM         | Fluoro coated |

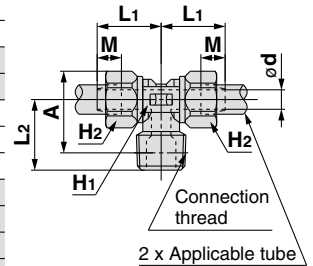
## Dimensions

### Male Branch Tee: KFG2T



| Applicable tube size (mm) |      | Connection thread R | Model        | Width across flat |                | L <sub>1</sub> | L <sub>2</sub> | M   | ød  | A*   | Effective area (mm <sup>2</sup> ) | Weight (g) |
|---------------------------|------|---------------------|--------------|-------------------|----------------|----------------|----------------|-----|-----|------|-----------------------------------|------------|
| O.D.                      | I.D. |                     |              | H <sub>1</sub>    | H <sub>2</sub> |                |                |     |     |      |                                   |            |
| ø4                        | ø2.5 | 1/8                 | KFG2T0425-01 | 10                | 8              | 13.5           | 12.5           | 5   | 1.8 | 13.8 | 3                                 | 13         |
|                           |      | 1/4                 | KFG2T0425-02 |                   |                |                | 15.9           |     |     | 15.6 |                                   | 17         |
| ø4                        | ø3   | 1/8                 | KFG2T0403-01 |                   |                |                | 12.5           |     | 2.3 | 13.8 |                                   | 12         |
|                           |      | 1/4                 | KFG2T0403-02 |                   |                |                | 15.9           |     |     | 15.6 |                                   | 17         |
| ø6                        | ø4   | 1/8                 | KFG2T0604-01 | 10                | 10             | 15             | 13.6           | 5.8 | 3.3 | 16   | 10                                | 17         |
|                           |      | 1/4                 | KFG2T0604-02 |                   |                |                | 17             |     |     | 17.8 |                                   | 21         |
| ø8                        | ø6   | 1/8                 | KFG2T0806-01 | 12                | 14             | 17.4           | 15.8           | 6.6 | 5.3 | 20.4 | 16                                | 30         |
|                           |      | 1/4                 | KFG2T0806-02 |                   |                |                | 19.2           |     |     | 22.2 |                                   | 34         |
|                           |      | 3/8                 | KFG2T0806-03 |                   |                |                | 19.6           |     |     |      |                                   | 38         |
| ø10                       | ø7.5 | 1/4                 | KFG2T1075-02 | 15                | 17             | 20.9           | 20.9           | 7.6 | 6.8 | 25.6 | 30                                | 55         |
|                           |      | 3/8                 | KFG2T1075-03 |                   |                |                | 21.3           |     |     | 27.5 |                                   | 59         |
|                           |      | 1/2                 | KFG2T1075-04 |                   |                |                | 24.5           |     |     |      |                                   | 68         |
| ø10                       | ø8   | 1/4                 | KFG2T1008-02 |                   |                |                | 20.9           | 7.3 | 7.3 | 25.6 | 35                                | 54         |
|                           |      | 3/8                 | KFG2T1008-03 |                   |                |                | 21.3           |     |     | 27.5 |                                   | 58         |
|                           |      | 1/2                 | KFG2T1008-04 |                   |                |                | 24.5           |     |     |      |                                   | 67         |
| ø12                       | ø9   | 1/4                 | KFG2T1209-02 | 16                | 17             | 23.5           | 20.9           | 8.5 | 8   | 25.6 | 32                                | 59         |
|                           |      | 3/8                 | KFG2T1209-03 |                   |                |                | 21.3           |     |     | 27.5 |                                   | 63         |
|                           |      | 1/2                 | KFG2T1209-04 |                   |                |                | 24.5           |     |     |      |                                   | 72         |
| ø12                       | ø10  | 1/4                 | KFG2T1210-02 |                   |                |                | 20.9           | 9   | 9   | 25.6 | 41                                | 57         |
|                           |      | 3/8                 | KFG2T1210-03 |                   |                |                | 21.3           |     |     | 27.5 |                                   | 60         |
|                           |      | 1/2                 | KFG2T1210-04 |                   |                |                | 24.5           |     |     |      |                                   | 69         |
| ø16                       | ø13  | 3/8                 | KFG2T1613-03 | 21                | 22             | 26.2           | 24             | 9.3 | 12  | 31   | 108                               | 98         |
|                           |      | 1/2                 | KFG2T1613-04 |                   |                |                | 27.2           |     |     | 32.9 |                                   | 106        |

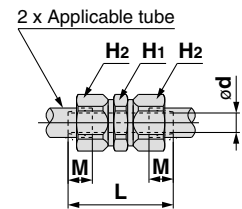
\* Reference dimensions after installation of R thread



### Straight Union: KFG2H



| Applicable tube size (mm) |      | Model        | Width across flat |                | L    | M   | ød  | Effective area (mm <sup>2</sup> ) | Weight (g) |
|---------------------------|------|--------------|-------------------|----------------|------|-----|-----|-----------------------------------|------------|
| O.D.                      | I.D. |              | H <sub>1</sub>    | H <sub>2</sub> |      |     |     |                                   |            |
| ø4                        | ø2.5 | KFG2H0425-00 | 8                 | 8              | 21.8 | 5   | 1.8 | 1.6                               | 7          |
|                           |      | KFG2H0403-00 |                   |                |      |     | 2.3 | 2.6                               |            |
| ø6                        | ø4   | KFG2H0604-00 | 10                | 10             | 24.8 | 5.8 | 3.3 | 6                                 | 11         |
| ø8                        | ø6   | KFG2H0806-00 | 14                | 14             | 28.6 | 6.6 | 5.3 | 17                                | 25         |
| ø10                       | ø7.5 | KFG2H1075-00 | 17                | 17             | 33.6 | 7.6 | 6.8 | 30                                | 43         |
| ø10                       | ø8   | KFG2H1008-00 |                   |                |      |     | 7.3 | 35                                | 42         |
| ø12                       | ø9   | KFG2H1209-00 | 17                | 17             | 37   | 8.5 | 8   | 45                                | 44         |
| ø12                       | ø10  | KFG2H1210-00 |                   |                |      |     | 9   | 57                                | 42         |
| ø16                       | ø13  | KFG2H1613-00 | 22                | 22             | 39.4 | 9.3 | 12  | 101                               | 71         |



### Union Tee: KFG2T



| Applicable tube size (mm) |      | Model        | Width across flat |                | L    | M   | ød  | Effective area (mm <sup>2</sup> ) | Weight (g) |
|---------------------------|------|--------------|-------------------|----------------|------|-----|-----|-----------------------------------|------------|
| O.D.                      | I.D. |              | H <sub>1</sub>    | H <sub>2</sub> |      |     |     |                                   |            |
| ø4                        | ø2.5 | KFG2T0425-00 | 7                 | 8              | 13.3 | 5   | 1.8 | 1.6                               | 11         |
|                           |      | KFG2T0403-00 |                   |                |      |     | 2.3 | 2.6                               | 10         |
| ø6                        | ø4   | KFG2T0604-00 | 9                 | 10             | 15.8 | 5.8 | 3.3 | 6                                 | 18         |
| ø8                        | ø6   | KFG2T0806-00 | 12                | 14             | 18.7 | 6.6 | 5.3 | 17                                | 39         |
| ø10                       | ø7.5 | KFG2T1075-00 | 15                | 17             | 22.2 | 7.6 | 6.8 | 30                                | 67         |
| ø10                       | ø8   | KFG2T1008-00 |                   |                |      |     | 7.3 | 35                                | 65         |
| ø12                       | ø9   | KFG2T1209-00 | 16                | 17             | 24.3 | 8.5 | 8   | 45                                | 71         |
| ø12                       | ø10  | KFG2T1210-00 |                   |                |      |     | 9   | 57                                | 67         |
| ø16                       | ø13  | KFG2T1613-00 | 21                | 22             | 28   | 9.3 | 12  | 101                               | 122        |

