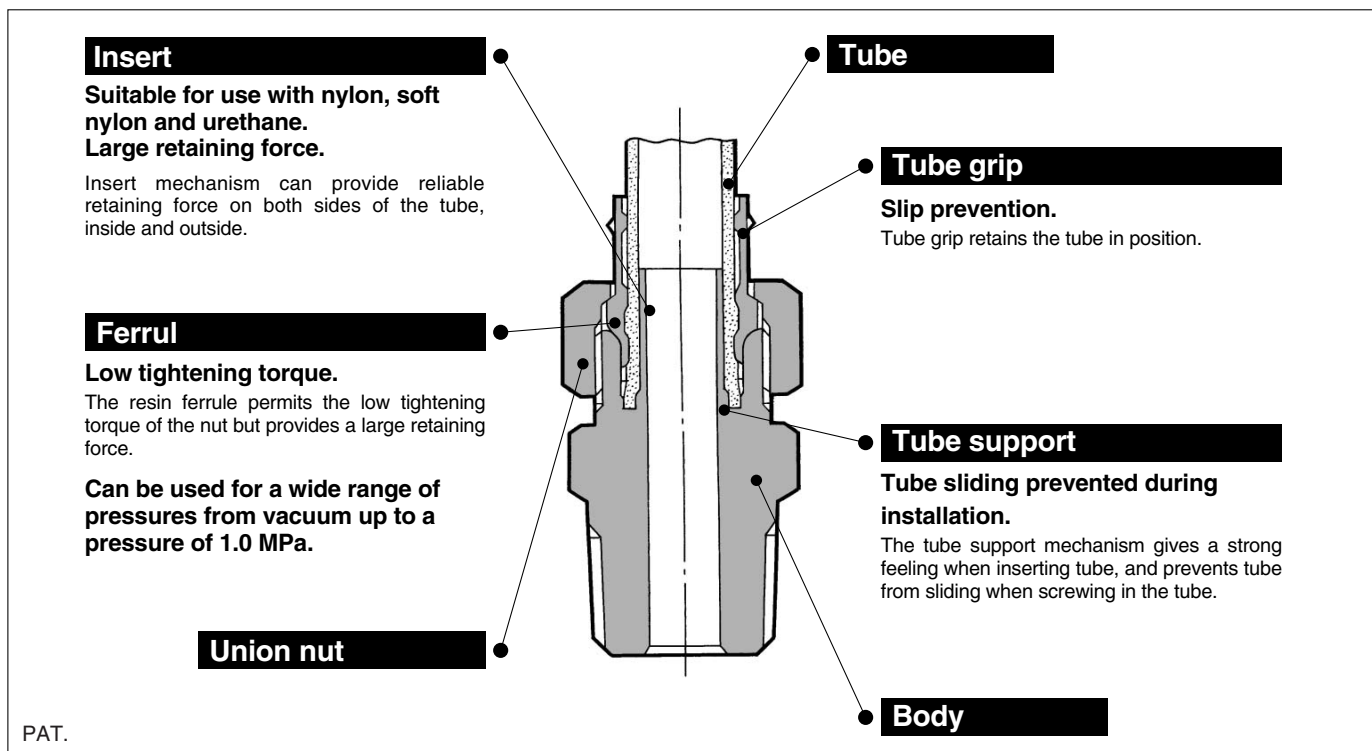


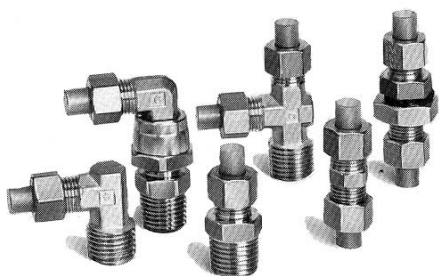
Insert Fittings

Series KF



Applicable for nylon, soft nylon and polyurethane tubing.

Designed for improvement of workability with low clamping torque.



Applicable Tubing

| Tubing size | O.D. | 4 | 6 | 8 | 10 | 12 | | | |
|---------------------|------|-----|---|---------|----|---------|-----|---------|---|
| | I.D. | 2.5 | 4 | 5 | 6 | 6.5 | 7.5 | 8 | 9 |
| Nylon tubing | | ● | ● | — | ● | — | ● | — | ● |
| Soft nylon tubing | | ● | ● | — | ● | — | ● | — | ● |
| Polyurethane tubing | | ● | ● | ◎(Note) | — | ◎(Note) | — | ◎(Note) | — |



Note) "◎" mark (polyurethane tubing ø8, ø10, ø12) are provided with the captive styles because of different I.D.

Specifications

| | | |
|--|--------------------------|---|
| Fluid | Air | |
| Maximum operating pressure | 1.0 MPa | |
| Operating vacuum pressure | -101.3 kPa | |
| Proof pressure | 7.0 MPa | |
| Ambient and fluid temperature | -5 to 60°C (No freezing) | |
| Thread | Mounting section | JIS B 0203 (Taper thread for piping) |
| | Nut section | JIS B 0211 Class 2 (Metric fine thread) |
| Seal (Thread portion) ^{Note)} | None or with seal | |



Note) Male elbow, Male branch tee and Male run tee with sealant are manufactured upon receipt of order. Suffix "S" to the end of part number if W/ seal is desired.

Principal Parts Material

| | |
|--------|------------------|
| Body | C3604BD, C3771BE |
| Nut | C3604BD |
| Ferrul | Nylon 66 |

Model

Male connector

KFH P. 49



Use to connect tubes in the same direction from female thread. Most general type.

Female connector

KFF P. 50



Use to pipe from male thread such as pressure gauge.

Straight union

KFH P. 49



Use to connect tubes in the same direction.

Bulkhead connector

KFE P. 51



Use to connect male thread and tube through a panel.

Male elbow

KFL P. 49



Use to pipe at right angles to female thread. Most general type.

Bulkhead union

KFE P. 51



Use to connect tubes through a panel.

Union tee

KFT P. 50



Use to connect tubes in both 90° directions.

Male run tee

KFY P. 51



Use to branch line in the same direction from female thread and in 90° direction.

Male branch tee

KFT P. 50



Use to branch line from female thread in both 90° directions.

Plug

KFP P. 51



Use to plug unused fittings.

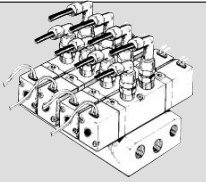
Swivel elbow

KFV



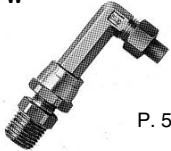
P. 52

Use to pipe at right angles to female thread. Swiveled at any direction.



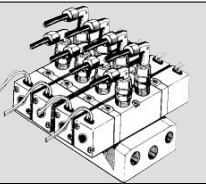
Swivel extended elbow

KFW



P. 52

Use to pipe at right angles to female thread. Swiveled at any direction. Solid piece moves fittings up from workpiece.

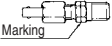
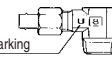


- K
- M
- H
- D
- MS
- T
- VMG

Series KF

Fitting Markings for Applicable Tubing Material

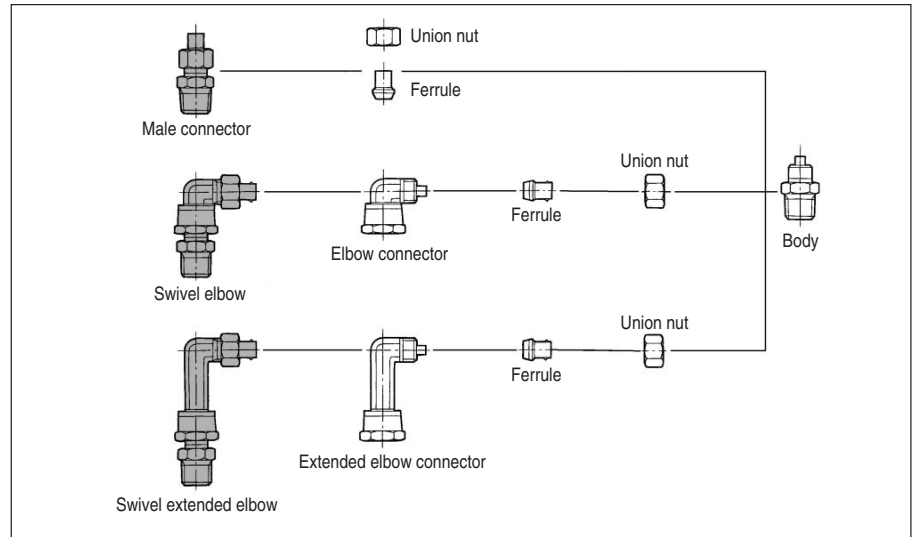
- Fittings used only with polyurethane tube (Tube O.D. $\phi 8$, $\phi 10$ and $\phi 12$) are identified by the following marks on the body.
- Unmarked fittings are used with nylon and soft nylon tubes or compatible with nylon, soft nylon and polyurethane tubes.
- Union nut and ferrule are compatible.

| Marking for polyurethane tube | Model |
|---|--|
|  | Male connector: KFH Female connector: KFF Bulkhead connector: KFE Bulkhead union: KFE Straight union: KFH |
|  | Male elbow: KFL Branch tee: KFT Male run tee: KFY Union tee: KFT Swivel elbow: KFV Swivel extended elbow: KFW |

Swivel Type/Parts No.

Swivel type fitting parts lineup

The bodies of elbow connectors and extended elbow connectors are compatible with almost any fitting. (Exceptions are "KFV-04" and "KFW-04" which are for the body of a $\phi 6$ tube.) Swivel fittings, elbow (KFV) and (KFW) constitute the combination with a male connector (KFH) and connection as shown in the diagram.



Elbow Connector: KFV

| Part no. | Applicable tubing O.D./I.D. |
|----------|-----------------------------|
| KFV-04 | $\phi 4/\phi 2.5$ |
| KFV-06 | $\phi 6/\phi 4$ |
| KFV-08U | $\phi 8/\phi 5$ |
| KFV-08N | $\phi 8/\phi 6$ |
| KFV-10U | $\phi 10/\phi 6.5$ |
| KFV-10N | $\phi 10/\phi 7.5$ |
| KFV-12U | $\phi 12/\phi 8$ |
| KFV-12N | $\phi 12/\phi 9$ |

Union Nut: KFN

| Part no. | Applicable tubing O.D. |
|----------|------------------------|
| KFN-04 | $\phi 4$ |
| KFN-06 | $\phi 6$ |
| KFN-08 | $\phi 8$ |
| KFN-10 | $\phi 10$ |
| KFN-12 | $\phi 12$ |

Extended Elbow Connector: KFW

| Part no. | Applicable tubing O.D./I.D. |
|----------|-----------------------------|
| KFW-04 | $\phi 4/\phi 2.5$ |
| KFW-06 | $\phi 6/\phi 4$ |
| KFW-08U | $\phi 8/\phi 5$ |
| KFW-08N | $\phi 8/\phi 6$ |
| KFW-10U | $\phi 10/\phi 6.5$ |
| KFW-10N | $\phi 10/\phi 7.5$ |
| KFW-12U | $\phi 12/\phi 8$ |
| KFW-12N | $\phi 12/\phi 9$ |

Ferrule: KFS

| Part no. | Applicable tubing O.D. |
|----------|------------------------|
| KFS-04 | $\phi 4$ |
| KFS-06 | $\phi 6$ |
| KFS-08 | $\phi 8$ |
| KFS-10 | $\phi 10$ |
| KFS-12 | $\phi 12$ |

⚠ Precautions

Be sure to read before handling.
Refer to pages 15-18-3 to 15-18-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 15-1-10 to 15-1-11 for Precautions on every series.

Piping

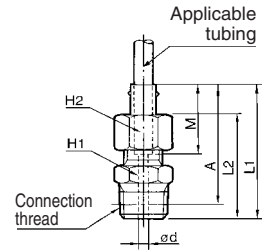
⚠ Caution

- Cut the tube perpendicularly to the axis. (Use SMC tube cutter "TK-1", "TK-2" or "TK-3".)
- Then, push the cut tube in until it comes to a stop, and tighten the nut by hand.
- Tighten 1.5 to 2 rotations with a tightening tool.
Axial direction width between nut and body after tightening is around 2 mm.

Male Connector: KFH



| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | M | ød | A* | Effective area (mm²) | Weight (g) |
|------------------------|------|---------------------|-----------|-------------------------|-------------------------|------|------|------|------|------|----------------------|------------|
| O.D. | I.D. | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFH04-01 | 10 | 10 | 30.5 | 23.8 | 15.5 | 1.5 | 26.5 | 1.6 | 13 |
| | | 1/4 | KFH04-02 | 14 | | 34.5 | 27.8 | | | 28.5 | | 23 |
| 6 | 4 | 1/8 | KFH06-01 | 10 | 12 | 30.2 | 23.5 | 15.2 | 3 | 26.2 | 6 | 14 |
| | | 1/4 | KFH06-02 | 14 | | 34.2 | 27.5 | | | 28.2 | | 25 |
| | | 3/8 | KFH06-03 | 17 | | 35.2 | 28.5 | | | 28.9 | | 36 |
| | | 1/8 | KFH08U-01 | 12 | | 30.2 | 23.5 | | | 26.2 | | 16 |
| 8 | 5 | 1/4 | KFH08U-02 | 14 | 14 | 34.2 | 27.5 | 16.2 | 4 | 28.2 | 11 | 25 |
| | | 3/8 | KFH08U-03 | 17 | | 39.8 | 28.5 | | | 28.9 | | 37 |
| | | 1/8 | KFH08N-01 | 12 | | 30.2 | 23.5 | | | 26.2 | | 16 |
| | 6 | 1/4 | KFH08N-02 | 14 | | 34.2 | 27.5 | | 28.2 | 17 | 24 | |
| | | 3/8 | KFH08N-03 | 17 | | 35.2 | 28.5 | | 28.9 | 36 | | |
| | | 1/4 | KFH10U-02 | 17 | | 35.8 | 28.5 | | 29.8 | 32 | | |
| 10 | 6.5 | 3/8 | KFH10U-03 | 17 | 17 | 36.8 | 29.5 | 5.5 | 6.5 | 30.5 | 21 | 40 |
| | | 1/2 | KFH10U-04 | 22 | | 39.8 | 32.5 | | | 31.6 | | 65 |
| | | 1/4 | KFH10N-02 | 17 | | 35.8 | 28.5 | | | 29.8 | | 31 |
| | 7.5 | 3/8 | KFH10N-03 | 17 | | 36.8 | 29.5 | 30.5 | 30 | 39 | | |
| | | 1/2 | KFH10N-04 | 22 | | 39.8 | 32.5 | 31.6 | 64 | | | |
| | | 1/4 | KFH12U-02 | 17 | | 36.3 | 29.5 | 30.3 | 33 | | | |
| 12 | 8 | 3/8 | KFH12U-03 | 17 | 19 | 37.3 | 30.5 | 7 | 8 | 31 | 35 | 41 |
| | | 1/2 | KFH12U-04 | 22 | | 40.3 | 33.5 | | | 32.1 | | 65 |
| | | 1/4 | KFH12N-02 | 17 | | 36.3 | 29.5 | | | 30.3 | | 31 |
| | 9 | 3/8 | KFH12N-03 | 17 | | 37.3 | 30.5 | 31 | 45 | 39 | | |
| | | 1/2 | KFH12N-04 | 22 | | 40.3 | 33.5 | 32.1 | 64 | | | |

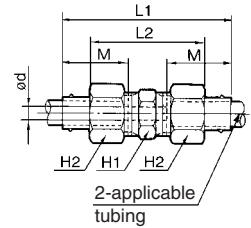


* Reference dimensions after R thread installation.

Straight Union: KFH



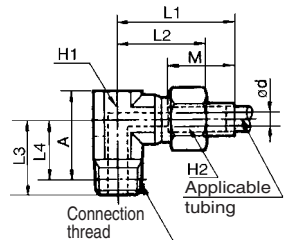
| Applicable tubing (mm) | | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | M | ød | Effective area (mm²) | Weight (g) |
|------------------------|------|-----------|-------------------------|-------------------------|------|------|------|-----|----------------------|------------|
| O.D. | I.D. | | | | | | | | | |
| 4 | 2.5 | KFH04-00 | 8 | 10 | 40.9 | 27.6 | 15.5 | 1.5 | 1.6 | 13 |
| 6 | 4 | KFH06-00 | 10 | 12 | 40.3 | 27 | 15.2 | 3 | 6 | 17 |
| 8 | 5 | KFH08U-00 | 12 | 14 | 41.3 | 28 | 16.2 | 4 | 11 | 23 |
| | 6 | KFH08N-00 | | | | | | 5 | 17 | 22 |
| 10 | 6.5 | KFH10U-00 | 17 | 17 | 44.6 | 30 | 18.8 | 5.5 | 21 | 36 |
| | 7.5 | KFH10N-00 | | | | | | 6.5 | 30 | |
| 12 | 8 | KFH12U-00 | 17 | 19 | 45.5 | 32 | 19.3 | 7 | 35 | 42 |
| | 9 | KFH12N-00 | | | | | | 8 | 45 | 41 |



Male Elbow: KFL



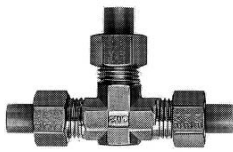
| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | L3 | L4* | M | ød | A | Effective area (mm²) | Weight (g) | | | | | | | |
|------------------------|------|---------------------|-----------|-------------------------|-------------------------|------|------|----|------|------|-----|------|----------------------|------------|------|------|----|------|------|-----|----|
| O.D. | I.D. | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFL04-01 | 10 | 10 | 27.5 | 20.8 | 17 | 13 | 15.5 | 1.5 | 19.3 | 1.6 | 21 | | | | | | | |
| | | 1/4 | KFL04-02 | | | | | | | | | | | 19 | 25 | | | | | | |
| 6 | 4 | 1/8 | KFL06-01 | 10 | 12 | 27.2 | 20.5 | 17 | 13 | 15.2 | 3 | 19.3 | 6 | 22 | | | | | | | |
| | | 1/4 | KFL06-02 | | | | | | | | | | | 19 | 27 | | | | | | |
| | | 3/8 | KFL06-03 | | | | | | | | | | | 12 | 30.2 | 23.5 | 20 | 13.7 | 21 | 9.5 | 38 |
| | | 1/8 | KFL08U-01 | | | | | | | | | | | 12 | 28.2 | 21.5 | 18 | 14 | 21.3 | 30 | |
| 8 | 5 | 1/4 | KFL08U-02 | 12 | 14 | 28.2 | 21.5 | 21 | 15 | 16.2 | 4 | 22.3 | 11 | 32 | | | | | | | |
| | | 3/8 | KFL08U-03 | | | | | | | | | | | 12 | 30.2 | 23.5 | 20 | 13.7 | 21 | 39 | |
| | | 1/8 | KFL08N-01 | | | | | | | | | | | 12 | 28.2 | 21.5 | 18 | 14 | 21.3 | 12 | 31 |
| | 6 | 1/4 | KFL08N-02 | | | | | | | | 14 | 21 | 15 | 5 | 22.3 | 16 | 32 | | | | |
| | | 3/8 | KFL08N-03 | | | | | | | | 14 | 30.2 | 23.5 | 20 | 13.7 | 21 | 37 | | | | |
| | | 1/4 | KFL10U-02 | | | | | | | | 12 | 31.8 | 24.5 | 22 | 16 | 23.3 | 18 | 38 | | | |
| 10 | 6.5 | 3/8 | KFL10U-03 | 17 | 17 | 33.8 | 26.5 | 25 | 16.8 | 18.8 | 5.5 | 22 | 20 | 44 | | | | | | | |
| | | 1/2 | KFL10U-04 | | | | | | | | | | | 14 | 25.3 | 20 | 66 | | | | |
| | | 1/4 | KFL10N-02 | | | | | | | | | | | 12 | 31.8 | 24.5 | 22 | 16 | 23.3 | 23 | 38 |
| | 7.5 | 3/8 | KFL10N-03 | | | | | | | | 14 | 21 | 14.7 | 6.5 | 22 | 26 | 43 | | | | |
| | | 1/2 | KFL10N-04 | | | | | | | | 14 | 33.8 | 26.5 | 25 | 16.8 | 25.3 | 65 | | | | |
| | | 1/4 | KFL12U-02 | | | | | | | | 14 | 19 | 34.3 | 27.5 | 7 | 25.5 | 24 | 53 | | | |
| 12 | 8 | 3/8 | KFL12U-03 | 14 | 19 | 34.3 | 27.5 | 22 | 15.7 | 19.3 | 7 | 24.2 | 30 | 53 | | | | | | | |
| | | 1/2 | KFL12U-04 | | | | | | | | | | | 25 | 16.8 | 25.3 | 68 | | | | |
| | | 1/4 | KFL12N-02 | | | | | | | | | | | 23 | 17 | 25.5 | 27 | 51 | | | |
| | 9 | 3/8 | KFL12N-03 | | | | | | | | 14 | 22 | 15.7 | 8 | 24.2 | 35 | 57 | | | | |
| | | 1/2 | KFL12N-04 | | | | | | | | 14 | 25 | 16.8 | 8 | 25.3 | 62 | | | | | |



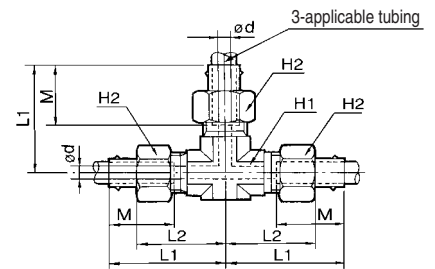
* Reference dimensions after R thread installation.

Series KF

Union Tee: KFT



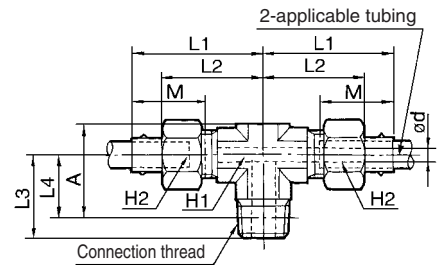
| Applicable tubing (mm) | | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | M | ød | Effective area (mm ²) | Weight (g) |
|------------------------|------|-----------|----------------------------|----------------------------|------|------|------|-----|-----------------------------------|------------|
| O.D. | I.D. | | | | | | | | | |
| 4 | 2.5 | KFT04-00 | 10 | 10 | 27.5 | 20.8 | 15.5 | 1.5 | 1.6 | 33 |
| 6 | 4 | KFT06-00 | | 12 | 27.2 | 20.5 | 15.2 | 3 | 6 | 37 |
| 8 | 5 | KFT08U-00 | 12 | 14 | 30.2 | 23.5 | 16.2 | 4 | 11 | 54 |
| | 6 | KFT08N-00 | | | | | | 5 | 17 | 53 |
| 10 | 6.5 | KFT10U-00 | 12 | 17 | 31.8 | 24.5 | 18.8 | 5.5 | 21 | 65 |
| | 7.5 | KFT10N-00 | | | | | | 6.5 | 30 | 63 |
| 12 | 8 | KFT12U-00 | 14 | 19 | 34.3 | 27.5 | 19.3 | 7 | 35 | 89 |
| | 9 | KFT12N-00 | | | | | | 8 | 45 | 85 |



Male Branch Tee: KFT

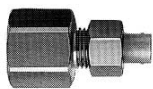


| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | L3 | L4* | M | ød | A* | Effective area (mm ²) | Weight (g) | | | | | | | | |
|------------------------|------|---------------------|-----------|----------------------------|----------------------------|------|------|----|-----|------|-----|------|-----------------------------------|------------|----|------|------|------|------|------|----|----|
| O.D. | I.D. | | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFT04-01 | 10 | 10 | 27.5 | 20.8 | 17 | 13 | 15.5 | 1.5 | 19.3 | 3 | 29 | | | | | | | | |
| | | 1/4 | KFT04-02 | | | | | | | | | | | | 19 | 34 | | | | | | |
| 6 | 4 | 1/8 | KFT06-01 | 10 | 12 | 27.2 | 20.5 | 17 | 13 | 15.2 | 3 | 19.3 | 10 | 32 | | | | | | | | |
| | | 1/4 | KFT06-02 | | | | | | | | | | | | 19 | 37 | | | | | | |
| | | 3/8 | KFT06-03 | | | | | | | | | | | | 12 | 30.2 | 23.5 | 22 | 15.7 | 23 | 12 | 53 |
| 8 | 5 | 1/8 | KFT08U-01 | 12 | 14 | 30.2 | 23.5 | 20 | 16 | 16.2 | 4 | 23.3 | 14 | 49 | | | | | | | | |
| | | 1/4 | KFT08U-02 | | | | | | | | | | | | 17 | 23 | 17 | 24.3 | 50 | | | |
| | | 3/8 | KFT08U-03 | | | | | | | | | | | | 12 | 30.2 | 23.5 | 22 | 15.7 | 23 | 19 | 56 |
| | 6 | 1/8 | KFT08N-01 | | | | | | | | | | | | 17 | 20 | 16 | 23.3 | 16 | 46 | | |
| | | 1/4 | KFT08N-02 | | | | | | | | | | | | 17 | 23 | 17 | 24.3 | 25 | 49 | | |
| | | 3/8 | KFT08N-03 | | | | | | | | | | | | 12 | 30.2 | 23.5 | 22 | 15.7 | 23 | 54 | |
| 10 | 6.5 | 1/4 | KFT10U-02 | 12 | 17 | 31.8 | 24.5 | 23 | 17 | 18.8 | 5.5 | 24.3 | 27 | 46 | | | | | | | | |
| | | 3/8 | KFT10U-03 | | | | | | | | | | | | 17 | 22 | 15.7 | 23 | 63 | | | |
| | | 1/2 | KFT10U-04 | | | | | | | | | | | | 14 | 33.8 | 26.5 | 27 | 18.8 | 27.3 | 34 | 90 |
| | 7.5 | 1/4 | KFT10N-02 | | | | | | | | | | | | 12 | 31.8 | 24.5 | 23 | 17 | 24.3 | 30 | 57 |
| | | 3/8 | KFT10N-03 | | | | | | | | | | | | 12 | 22 | 15.7 | 23 | 62 | | | |
| | | 1/2 | KFT10N-04 | | | | | | | | | | | | 14 | 33.8 | 26.5 | 27 | 18.8 | 27.3 | 41 | 88 |
| 12 | 8 | 1/4 | KFT12U-02 | 14 | 19 | 34.3 | 27.5 | 25 | 19 | 19.3 | 7 | 27.5 | 31 | 79 | | | | | | | | |
| | | 3/8 | KFT12U-03 | | | | | | | | | | | | 17 | 24 | 17.7 | 26.2 | 81 | | | |
| | | 1/2 | KFT12U-04 | | | | | | | | | | | | 14 | 27 | 18.8 | 27.3 | 44 | 94 | | |
| | 9 | 1/4 | KFT12N-02 | | | | | | | | | | | | 17 | 25 | 19 | 27.5 | 32 | 75 | | |
| | | 3/8 | KFT12N-03 | | | | | | | | | | | | 17 | 24 | 17.7 | 26.2 | 78 | | | |
| | | 1/2 | KFT12N-04 | | | | | | | | | | | | 14 | 27 | 18.8 | 27.3 | 48 | 93 | | |

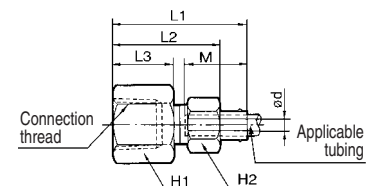


* Reference dimensions after R thread installation.

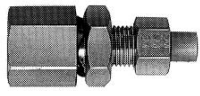
Female Connector: KFF



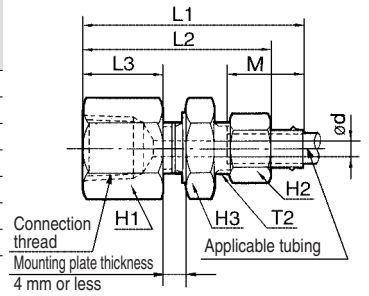
| Applicable tubing (mm) | | Connection thread Rc | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | L3 | M | ød | Effective area (mm ²) | Weight (g) |
|------------------------|------|----------------------|-----------|----------------------------|----------------------------|------|------|----|------|-----|-----------------------------------|------------|
| O.D. | I.D. | | | | | | | | | | | |
| 4 | 2.5 | 1/4 | KFF04-02 | 17 | 10 | 33.5 | 26.8 | 15 | 15.5 | 1.5 | 1.6 | 25 |
| 6 | 4 | 1/4 | KFF06-02 | 17 | 12 | 33.2 | 26.5 | 15 | 15.2 | 3 | 6 | 27 |
| | | 3/8 | KFF06-03 | | | | | | | | | |
| 8 | 6 | 1/4 | KFF08U-02 | 17 | 14 | 33.2 | 26.5 | 15 | 16.2 | 4 | 11 | 28 |
| | | | KFF08N-02 | | | | | | | | | |
| 10 | 6.5 | 1/4 | KFF10U-02 | 17 | 17 | 34.8 | 27.5 | 15 | 18.8 | 5.5 | 21 | 32 |
| | | | KFF10N-02 | | | | | | | | | |
| 12 | 8 | 1/4 | KFF12U-02 | 17 | 19 | 35.3 | 28.5 | 15 | 19.3 | 7 | 35 | 35 |
| | | | KFF12N-02 | | | | | | | | | |



Bulkhead Connector: KFE



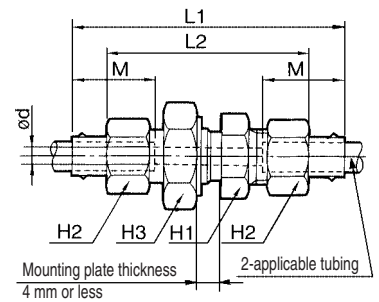
| Applicable tubing (mm) | | Connection thread Rc | Model | H1 (width across flats) | H2 (width across flats) | H3 (width across flats) | L1 | L2 | L3 | M | ød | T2 | Mounting hole | Effective area (mm ²) | Weight (g) |
|------------------------|------|----------------------|-----------|-------------------------|-------------------------|-------------------------|------|------|----|------|-----|---------|---------------|-----------------------------------|------------|
| O.D. | I.D. | | | | | | | | | | | | | | |
| 6 | 4 | 1/4 | KFE06-02 | 17 | 12 | 17 | 44.2 | 37.5 | 16 | 15.2 | 3 | M10 x 1 | 11 | 6 | 41 |
| 8 | 5 | 3/8 | KFE08U-03 | 19 | 14 | 19 | 46.2 | 39.5 | 17 | 16.2 | 4 | M12 x 1 | 13 | 11 | 49 |
| | 6 | | KFE08N-03 | | | | | | | | | | | 17 | 50 |
| 10 | 6.5 | 3/8 | KFE10U-03 | 19 | 17 | 22 | 48.8 | 41.5 | 17 | 18.8 | 5.5 | M15 x 1 | 16 | 21 | 63 |
| | 7.5 | | KFE10N-03 | | | | | | | | | | | 30 | 62 |
| 12 | 8 | 3/8 | KFE12U-03 | 22 | 19 | 24 | 51.3 | 44.5 | 17 | 19.3 | 7 | M17 x 1 | 18 | 35 | 93 |
| | 9 | | KFE12N-03 | | | | | | | | | | | 45 | 91 |



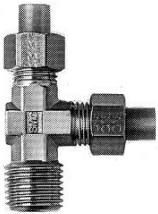
Bulkhead Union: KFE



| Applicable tubing (mm) | | Model | H1 (width across flats) | H2 (width across flats) | H3 (width across flats) | L1 | L2 | M | ød | Mounting hole | Effective area (mm ²) | Weight (g) |
|------------------------|------|-----------|-------------------------|-------------------------|-------------------------|------|------|------|-----|---------------|-----------------------------------|------------|
| O.D. | I.D. | | | | | | | | | | | |
| 4 | 2.5 | KFE04-00 | 12 | 10 | 13 | 50.9 | 37.6 | 15.5 | 1.5 | 9 | 1.6 | 23 |
| 6 | 4 | KFE06-00 | 14 | 12 | 17 | 51.3 | 38 | 15.2 | 3 | 11 | 6 | 34 |
| 8 | 5 | KFE08U-00 | 17 | 14 | 19 | 52.3 | 39 | 16.2 | 4 | 13 | 11 | 47 |
| | 6 | KFE08N-00 | | | | | | | | | 17 | 46 |
| 10 | 6.5 | KFE10U-00 | 19 | 17 | 22 | 56.6 | 42 | 18.8 | 5.5 | 16 | 21 | 67 |
| | 7.5 | KFE10N-00 | | | | | | | | | 30 | 66 |
| 12 | 8 | KFE12U-00 | 22 | 19 | 24 | 59.5 | 46 | 19.3 | 7 | 18 | 35 | 87 |
| | 9 | KFE12N-00 | | | | | | | | | 45 | 85 |

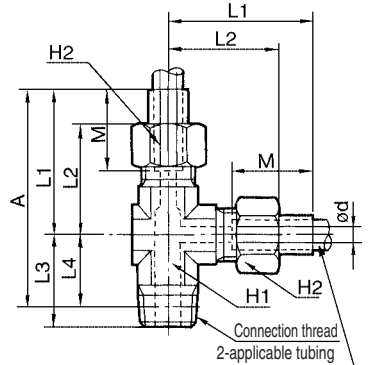


Male Run Tee: KFY



| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | L1 | L2 | L3 | L4* | M | ød | A* | Effective area (mm ²) | Weight (g) | | | | | | | | | | |
|------------------------|-----------|---------------------|-----------|-------------------------|-------------------------|------|------|------|------|------|------|------|-----------------------------------|------------|------|------|------|------|----|------|----|-----|------|----|
| O.D. | I.D. | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFY04-01 | 10 | 10 | 27.5 | 20.8 | 17 | 13 | 15.5 | 1.5 | 40.5 | 3.5 | 28 | | | | | | | | | | |
| | | 1/4 | KFY04-02 | | | | | | | | | | | 19 | 32 | | | | | | | | | |
| 6 | 4 | 1/8 | KFY06-01 | 10 | 12 | 27.2 | 20.5 | 17 | 13 | 15.2 | 3 | 40.2 | 11 | 31 | | | | | | | | | | |
| | | 1/4 | KFY06-02 | | | | | | | | | | | 19 | 37 | | | | | | | | | |
| | | 3/8 | KFY06-03 | | | | | | | | | | | 22 | 51 | | | | | | | | | |
| 8 | 5 | 1/8 | KFY08U-01 | 12 | 14 | 30.2 | 23.5 | 20 | 16 | 16.2 | 4 | 46.2 | 15 | 48 | | | | | | | | | | |
| | | 1/4 | KFY08U-02 | | | | | | | | | | | 23 | 17 | 50 | | | | | | | | |
| | | 3/8 | KFY08U-03 | | | | | | | | | | | 22 | 15.7 | 55 | | | | | | | | |
| | 6 | 1/8 | KFY08N-01 | | | | | 20 | 16 | | | | | 18.8 | 5.5 | 46.2 | 18 | 16.2 | 5 | 47.2 | 21 | 47 | | |
| | | 1/4 | KFY08N-02 | | | | | | | | | | | | | | | | | | | 23 | 17 | 48 |
| | | 3/8 | KFY08N-03 | | | | | | | | | | | | | | | | | | | 22 | 15.7 | 53 |
| 10 | 6.5 | 1/4 | KFY10U-02 | 12 | 17 | 31.8 | 24.5 | 23 | 17 | 18.8 | 5.5 | 48.8 | 30 | | | 58 | | | | | | | | |
| | | 3/8 | KFY10U-03 | | | | | | | | | | | | | 22 | 15.7 | | | | | 63 | | |
| | 7.5 | 1/4 | KFY10N-02 | | | 31.8 | 24.5 | 23 | 17 | | | | | | | 48.8 | 33 | | | | | 6.5 | 47.4 | 33 |
| | | 3/8 | KFY10N-03 | | | | | | | | | | | 22 | 15.7 | | | 62 | | | | | | |
| 12 | 8 | 1/2 | KFY10N-04 | 14 | 33.8 | 26.5 | 27 | 18.8 | 19.3 | 7 | 52.6 | 46 | 88 | | | | | | | | | | | |
| | | 1/4 | KFY12U-02 | | | | | | | | | | 25 | 19 | 53.3 | 34 | 79 | | | | | | | |
| | 3/8 | KFY12U-03 | 24 | | | | | | | | | | | | | | 17.7 | 51.9 | 49 | 79 | | | | |
| | 1/2 | KFY12U-04 | | | | | | | | | | | 27 | 18.8 | 53.1 | 93 | | | | | | | | |
| 9 | 1/4 | KFY12N-02 | 25 | 19 | 53.3 | 36 | 76 | | | | | | | | | | | | | | | | | |
| | 3/8 | KFY12N-03 | | | | | 24 | 17.7 | 51.9 | 78 | | | | | | | | | | | | | | |
| 1/2 | KFY12N-04 | 27 | 18.8 | 53.1 | 92 | | | | | | | | | | | | | | | | | | | |

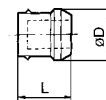
* Reference dimensions after R thread installation.



Plug: KFP



| Applicable fitting (mm) | Model | L | øD | Weight (g) |
|-------------------------|--------|------|------|------------|
| 4 | KFP-04 | 12 | 6.5 | 0.3 |
| 6 | KFP-06 | 12 | 8.5 | 0.5 |
| 8 | KFP-08 | 12 | 10.4 | 0.7 |
| 10 | KFP-10 | 13.5 | 13 | 1.0 |
| 12 | KFP-12 | 14 | 15 | 1.4 |

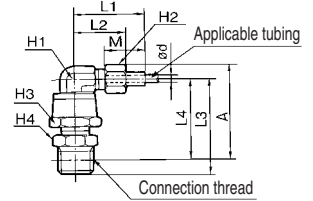


Series KF

Swivel Elbow: Kfv



| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | H3 (width across flats) | H4 (width across flats) | L1 | L2 | L3 | L4* | M | ød | A* | Effective area (mm ²) | Weight (g) | | | | | |
|------------------------|------|---------------------|-----------|-------------------------|-------------------------|-------------------------|-------------------------|------|------|------|------|------|-----|------|-----------------------------------|------------|-----------|-----------|------|------|------|
| O.D. | I.D. | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFV04-01 | 10 | 10 | 14 | 10 | 26 | 19.3 | 33.7 | 29.7 | 15.5 | 1.5 | 35.5 | 1.4 | 40 | | | | | |
| | | 1/4 | KFV04-02 | | | | | | | | | | | | | | 14 | 37.5 | 31.7 | | |
| 6 | 4 | 1/8 | KFV06-01 | 10 | 12 | 14 | 10 | 25.7 | 19 | 33.7 | 29.7 | 15.2 | 3 | 35.5 | 5 | 42 | | | | | |
| | | | 1/4 | | | | | | | | | | | | | | KFV06-02 | 14 | 37.5 | 31.7 | |
| | | | 3/8 | | | | | | | | | | | | | | KFV06-03 | 17 | 38.7 | 32.4 | |
| 8 | 5 | 1/8 | KFV08U-01 | 12 | 14 | 17 | 12 | 27.2 | 20.5 | 34.7 | 30.7 | 16.2 | 4 | 37.6 | 9.4 | 52 | | | | | |
| | | | 1/4 | | | | | | | | | | | | | | KFV08U-02 | 14 | 38.7 | 32.7 | |
| | | | 3/8 | | | | | | | | | | | | | | KFV08U-03 | 17 | 39.7 | 33.4 | |
| | 6 | 1/8 | KFV08N-01 | | | | 12 | | | 34.7 | 30.7 | | 5 | 37.6 | | 14 | 57 | | | | |
| | | | 1/4 | | | | KFV08N-02 | | | 14 | 38.7 | | | | | | | 32.7 | | | |
| | | | 3/8 | | | | KFV08N-03 | | | 17 | 39.7 | | | | | | | 33.4 | | | |
| 10 | 6.5 | 1/4 | KFV10U-02 | 14 | 17 | 19 | 17 | 28.8 | 21.5 | 40.7 | 34.7 | 18.8 | 5.5 | 42.8 | 18 | | 73 | | | | |
| | | | 3/8 | | | | | | | | | | | | | | | KFV10U-03 | 17 | 41.7 | 35.4 |
| | | | 1/2 | | | | | | | | | | | | | | | KFV10U-04 | 22 | 44.7 | 36.5 |
| | 7.5 | 1/4 | KFV10N-02 | | | | 17 | | | 40.7 | 34.7 | | 6.5 | 42.8 | | 25 | 80 | | | | |
| | | | 3/8 | | | | KFV10N-03 | | | 17 | 41.7 | | | | | | | 35.4 | | | |
| | | | 1/2 | | | | KFV10N-04 | | | 22 | 44.7 | | | | | | | 36.5 | | | |
| 12 | 8 | 1/4 | KFV12U-02 | 17 | 19 | 22 | 17 | 30.3 | 23.5 | 41.7 | 35.7 | 19.3 | 7 | 45.7 | 30 | | 100 | | | | |
| | | | 3/8 | | | | | | | | | | | | | | | KFV12U-03 | 17 | 42.7 | 36.4 |
| | | | 1/2 | | | | | | | | | | | | | | | KFV12U-04 | 22 | 45.7 | 37.5 |
| | 9 | 1/4 | KFV12N-02 | | | | 17 | | | 41.7 | 35.7 | | 8 | 45.7 | | 38 | 90 | | | | |
| | | | 3/8 | | | | KFV12N-03 | | | 17 | 42.7 | | | | | | | 36.4 | | | |
| | | | 1/2 | | | | KFV12N-04 | | | 22 | 45.7 | | | | | | | 37.5 | | | |

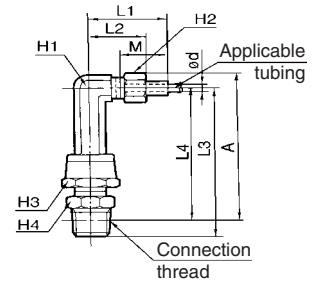


* Reference dimensions after R thread installation.

Swivel Extended Elbow: Kfw



| Applicable tubing (mm) | | Connection thread R | Model | H1 (width across flats) | H2 (width across flats) | H3 (width across flats) | H4 (width across flats) | L1 | L2 | L3 | L4* | M | ød | A* | Effective area (mm ²) | Weight (g) | | | | | |
|------------------------|------|---------------------|-----------|-------------------------|-------------------------|-------------------------|-------------------------|------|------|------|------|------|-----|------|-----------------------------------|------------|-----------|-----------|------|------|------|
| O.D. | I.D. | | | | | | | | | | | | | | | | | | | | |
| 4 | 2.5 | 1/8 | KFW04-01 | 10 | 10 | 14 | 10 | 26 | 19.3 | 53.7 | 49.7 | 15.5 | 1.5 | 55.5 | 1.4 | 58 | | | | | |
| | | 1/4 | KFW04-02 | | | | | | | | | | | | | | 14 | 57.7 | 51.7 | | |
| 6 | 4 | 1/8 | KFW06-01 | 10 | 12 | 14 | 10 | 25.7 | 19 | 54.7 | 50.7 | 15.2 | 3 | 56.5 | 5 | 61 | | | | | |
| | | | 1/4 | | | | | | | | | | | | | | KFW06-02 | 14 | 58.7 | 52.7 | |
| | | | 3/8 | | | | | | | | | | | | | | KFW06-03 | 17 | 59.7 | 53.4 | |
| 8 | 5 | 1/8 | KFW08U-01 | 12 | 14 | 17 | 12 | 27.2 | 20.5 | 55.7 | 51.7 | 16.2 | 4 | 58.6 | 9.4 | 81 | | | | | |
| | | | 1/4 | | | | | | | | | | | | | | KFW08U-02 | 14 | 59.7 | 53.7 | |
| | | | 3/8 | | | | | | | | | | | | | | KFW08U-03 | 17 | 60.7 | 54.4 | |
| | 6 | 1/8 | KFW08N-01 | | | | 12 | | | 55.7 | 51.7 | | 5 | 58.6 | | 14 | 81 | | | | |
| | | | 1/4 | | | | KFW08N-02 | | | 14 | 59.7 | | | | | | | 53.7 | | | |
| | | | 3/8 | | | | KFW08N-03 | | | 17 | 60.7 | | | | | | | 54.4 | | | |
| 10 | 6.5 | 1/4 | KFW10U-02 | 14 | 17 | 19 | 17 | 28.8 | 21.5 | 61.7 | 55.7 | 18.8 | 5.5 | 63.8 | 18 | | 100 | | | | |
| | | | 3/8 | | | | | | | | | | | | | | | KFW10U-03 | 17 | 62.7 | 56.4 |
| | | | 1/2 | | | | | | | | | | | | | | | KFW10U-04 | 22 | 65.7 | 57.5 |
| | 7.5 | 1/4 | KFW10N-02 | | | | 17 | | | 61.7 | 55.7 | | 6.5 | 63.8 | | 25 | 99 | | | | |
| | | | 3/8 | | | | KFW10N-03 | | | 17 | 62.7 | | | | | | | 56.4 | | | |
| | | | 1/2 | | | | KFW10N-04 | | | 22 | 65.7 | | | | | | | 57.5 | | | |
| 12 | 8 | 1/4 | KFW12U-02 | 17 | 19 | 22 | 17 | 30.3 | 23.5 | 64.7 | 58.7 | 19.3 | 7 | 68.7 | 30 | | 146 | | | | |
| | | | 3/8 | | | | | | | | | | | | | | | KFW12U-03 | 17 | 65.7 | 59.4 |
| | | | 1/2 | | | | | | | | | | | | | | | KFW12U-04 | 22 | 68.7 | 60.5 |
| | 9 | 1/4 | KFW12N-02 | | | | 17 | | | 64.7 | 58.7 | | 8 | 68.7 | | 38 | 144 | | | | |
| | | | 3/8 | | | | KFW12N-03 | | | 17 | 65.7 | | | | | | | 59.4 | | | |
| | | | 1/2 | | | | KFW12N-04 | | | 22 | 68.7 | | | | | | | 60.5 | | | |



* Reference dimensions after R thread installation.