

# Stainless Steel 316 Fittings

## KQG2 Series

### Compact and Light

RoHS



Approx. **30%** Shorter  
\* KQG2L06-01S



Approx. **62%** Lighter  
\* KQG2L06-01S

New

KQG2L06-01S

15.9 mm

10.1g

Current model

KQGL06-01S

22.1 mm

26g

#### Material

# Stainless steel 316

- Grease-free/Can be used with steam.
- Certified to meet current Food Sanitation Law standards.

(Component materials have met apparatuses and container-packages standards.)

Fluid temperature

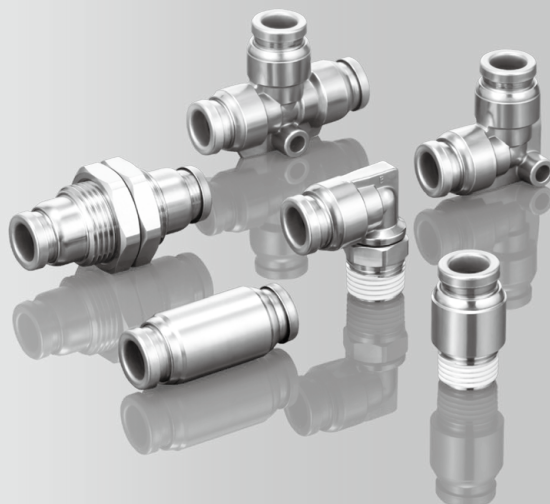
**-5 to 150°C**

Applicable tubing

**Metric size, Inch size**

Connection thread

**M, R, Rc, UNF, NPT**



KQ2

KQB2

KS  
KX

KM

KF

M

H/DL  
L/L

KC

KK

KK130

DM

KDM

KB

KR

KA

**KQG2**

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

# Stainless Steel 316 One-touch Fittings *KQG2 Series*

## Compact and light

Dimensions: Approx. **30%** shorter

Weight: Approx. **62%** lighter

\* Comparison with KQGL06-01S

## Material

Metal parts: **Stainless steel 316**

Seal parts: Special **FKM**

## Applicable tubing material

FEP • PFA • Nylon • Soft nylon

Polyurethane • Polyolefin

## Fluid temperature: -5 to 150°C

## Grease-free

## Can be used with steam.

New

KQG2L06-01S

15.9 mm

Weight  
**10.1 g**

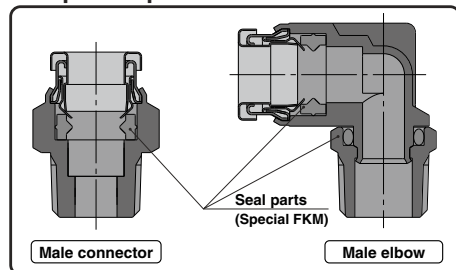
Current model

KQGL06-01S

22.1 mm

Weight  
**26 g**

**All Stainless steel 316**  
except seal parts

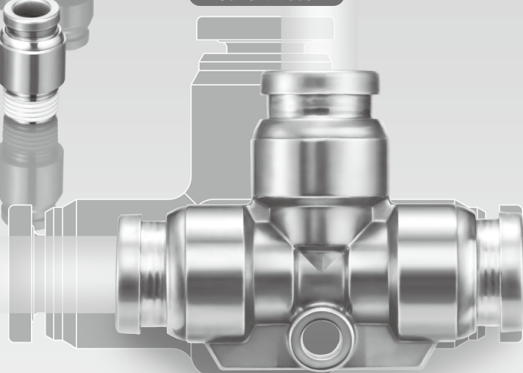


| Applicable tubing | Connection thread | Page         |
|-------------------|-------------------|--------------|
| Metric size       | M, R, Rc          | P.292 to 297 |
| Inch size         | UNF, NPT          | P.298 to 303 |



Certified to meet current  
Food Sanitation Law standards.  
(Component materials have  
met apparatuses and container-  
packages standards.)

Current model



# Stainless Steel 316 One-touch Fittings *KQG2 Series*

## Variations

### Male Connector **KQG2H**



Metric ..... P. 293  
Inch ..... P. 299

### Hexagon Socket Head Male Connector **KQG2S**



Metric ..... P. 293  
Inch ..... P. 299

### Straight Union **KQG2H**



Metric ..... P. 293  
Inch ..... P. 299

### Male Elbow **KQG2L**



Metric ..... P. 294  
Inch ..... P. 300

### Male Branch Tee **KQG2T**



Metric ..... P. 294  
Inch ..... P. 300

### Union Elbow **KQG2L**



Metric ..... P. 294  
Inch ..... P. 300

### Bulkhead Union **KQG2E**



Metric ..... P. 295  
Inch ..... P. 301

### Union Tee **KQG2T**



Metric ..... P. 295  
Inch ..... P. 301

### Union "Y" **KQG2U**



Metric ..... P. 295  
Inch ..... P. 301

### Different Diameter Tee **KQG2T**



Metric ..... P. 295  
Inch ..... P. 301

### Plug-in Reducer **KQG2R**



Metric ..... P. 295  
Inch ..... P. 301

### Different Diameter Straight **KQG2H**



Metric ..... P. 296  
Inch ..... P. 302

### Different Diameter Union "Y" **KQG2U**



Metric ..... P. 296  
Inch ..... P. 302

### Bulkhead Connector **KQG2E**



Metric ..... P. 296  
Inch ..... P. 302

### Extended Male Elbow **KQG2W**



Metric ..... P. 297  
Inch ..... P. 302

### Female Connector **KQG2F**



Metric ..... P. 297  
Inch ..... P. 303

### Plug **KQG2P**



Metric ..... P. 297  
Inch ..... P. 303

KQ2

KQB2

KS  
KX

KM

KF

M

H/DL  
L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

# Stainless Steel 316 One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## KQG2 Series

RoHS



### Applicable Tubing

|                 |                                                                           |
|-----------------|---------------------------------------------------------------------------|
| Tubing material | FEP, PFA, Nylon, Soft nylon <sup>Note 1)</sup> , Polyurethane, Polyolefin |
| Tubing O.D.     | ø3.2, ø4, ø6, ø8, ø10, ø12, ø16                                           |

### Specifications

|                                                         |                                              |
|---------------------------------------------------------|----------------------------------------------|
| <b>Fluid</b>                                            | Air, Water, Steam <sup>Note 2)</sup>         |
| <b>Operating pressure range</b> <sup>Note 3)</sup>      | –100 kPa to 1 MPa <sup>Note 4)</sup>         |
| <b>Proof pressure</b>                                   | 3.0 MPa                                      |
| <b>Ambient and fluid temperature</b> <sup>Note 5)</sup> | –5 to 150°C (No freezing) <sup>Note 4)</sup> |
| <b>Lubricant</b>                                        | Grease-free specification                    |
| <b>Seal on the threads</b>                              | With sealant                                 |

Note 1) For soft nylon tubing, water cannot be used.

Note 2) Consult with SMC regarding applicable tube separately.

Note 3) Avoid using in a vacuum holding application such as a leak tester, since there is leakage.

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

Note 5) It is recommended that you use the inner sleeve in the following conditions (Except ø3.2):

- When using in an environment where the fluid temperature changes drastically.
- When using at a high temperature.

#### \* Temperature Condition of Mounting the Inner Sleeve

| Tubing                     | Temperature   |
|----------------------------|---------------|
| FEP tubing/TH Series       | 80°C or more  |
| Super PFA tubing/TL Series | 120°C or more |

### Spare Parts

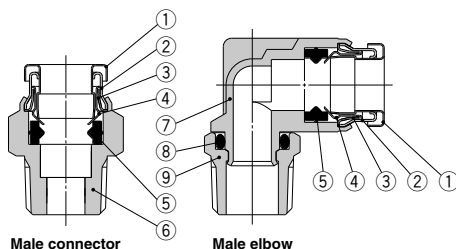
| Description  | Tubing O.D. | Part no.          | Material                         |
|--------------|-------------|-------------------|----------------------------------|
| Gasket       | —           | <b>M-5G3</b>      | Stainless steel 316, Special FKM |
| Bulkhead nut | ø3.2, ø4    | <b>KQG223-P01</b> | Stainless steel 316              |
|              | ø6          | <b>KQG206-P01</b> |                                  |
|              | ø8          | <b>KQG208-P01</b> |                                  |
|              | ø10         | <b>KQG210-P01</b> |                                  |
|              | ø12         | <b>KQG212-P01</b> |                                  |
|              | ø16         | <b>KQG216-P01</b> |                                  |

### Cross Reference Table of the Inner Sleeve

| Tubing O.D. | Tubing material         |             |                    | Applicable inner sleeve |        |
|-------------|-------------------------|-------------|--------------------|-------------------------|--------|
|             | TUS (Soft polyurethane) | TH/TH (FEP) | TL/TIL (Super PFA) | Part no.                | Length |
| ø4          | —                       | TH0402      | —                  | <b>TJG-0402</b>         | 18     |
|             | TUS0425                 | TH0425      | —                  | <b>TJG-0425</b>         | 18     |
| ø6          | —                       | —           | TL0403             | <b>TJG-0403</b>         | 18     |
|             | TUS0604                 | TH0604      | TL0604             | <b>TJG-0604</b>         | 19     |
| ø8          | TUS0805                 | —           | —                  | <b>TJG-0805</b>         | 20.5   |
|             | —                       | TH0806      | TL0806             | <b>TJG-0806</b>         | 20.5   |
| ø10         | TUS1065                 | —           | —                  | <b>TJG-1065</b>         | 23     |
|             | —                       | TH1075      | —                  | <b>TJG-1075</b>         | 23     |
|             | —                       | TH1008      | TL1008             | <b>TJG-1008</b>         | 23     |
| ø12         | TUS1208                 | —           | —                  | <b>TJG-1208</b>         | 24     |
|             | —                       | TH1209      | —                  | <b>TJG-1209</b>         | 24     |
|             | —                       | TH1210      | TL1210             | <b>TJG-1210</b>         | 24     |

\* Stainless steel 316 is used for the TJG series.

### Construction



### Component Parts

| No. | Description                | Material                    |
|-----|----------------------------|-----------------------------|
| 1   | <b>Release button</b>      | Stainless steel 316         |
| 2   | <b>Guide 1</b>             | Stainless steel 316         |
| 3   | <b>Guide 2</b>             | Stainless steel 316         |
| 4   | <b>Chuck</b>               | Stainless steel 316         |
| 5   | <b>Seal</b>                | Special FKM (Fluoro coated) |
| 6   | <b>Male connector body</b> | Stainless steel 316         |
| 7   | <b>Male elbow body</b>     | Stainless steel 316         |
| 8   | <b>O-ring</b>              | Special FKM (Fluoro coated) |
| 9   | <b>Stud</b>                | Stainless steel 316         |

# Stainless Steel 316 One-touch Fittings **KQG2 Series**

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## Dimensions

### Male Connector: KQG2H



| Applicable tubing O.D. (mm) | Connection thread R, M | Model       | H (Width across flat) | Note 1) øD | L    | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------------------|-------------|-----------------------|------------|------|------|------|-------------------------------------------|------------|
| ø3.2                        | M5 x 0.8               | KQG2H23-M5  | 8                     | 8          | 16.5 | 13.5 | 12   | 3                                         | 3.3        |
|                             | 1/8                    | KQG2H23-01S | 10                    |            | 15.4 | 12.3 |      | 3.4                                       | 5.7        |
|                             | 1/4                    | KQG2H23-02S | 14                    |            | 21   | 16.3 |      | 4                                         | 16.9       |
| ø4                          | M5 x 0.8               | KQG2H04-M5  | 8                     | 8.7        | 17.1 | 14.1 | 12.6 | 4                                         | 5          |
|                             | 1/8                    | KQG2H04-01S | 10                    |            | 15.3 | 12.2 |      | 5.6                                       | 4.7        |
|                             | 1/4                    | KQG2H04-02S | 14                    |            | 20.9 | 16.2 |      | 4                                         | 15.8       |
| ø6                          | M5 x 0.8               | KQG2H06-M5  | 12                    | 11.1       | 19.1 | 16.1 | 13.6 | 4                                         | 7.7        |
|                             | 1/8                    | KQG2H06-01S | 14                    |            | 18.1 | 15   |      | 13.1                                      | 7          |
|                             | 1/4                    | KQG2H06-02S | 14                    |            | 20.8 | 16.1 |      | 13.1                                      | 14.5       |
| ø8                          | 3/8                    | KQG2H06-03S | 17                    | 13.4       | 23   | 17.9 | 16.1 | 26.1                                      | 27.3       |
|                             | 1/8                    | KQG2H08-01S | 12                    |            | 24.5 | 21.4 |      | 26.1                                      | 12.8       |
|                             | 1/4                    | KQG2H08-02S | 14                    |            | 22.3 | 17.6 |      | 26.1                                      | 12.9       |
| ø10                         | 3/8                    | KQG2H08-03S | 17                    | 16.4       | 23.7 | 18.6 | 17   | 41.5                                      | 24.7       |
|                             | 1/8                    | KQG2H10-01S | 12                    |            | 25.5 | 22.4 |      | 26.1                                      | 18.9       |
|                             | 1/4                    | KQG2H10-02S | 17                    |            | 27.9 | 23.2 |      | 41.5                                      | 21.6       |
| ø12                         | 3/8                    | KQG2H10-03S | 22                    | 18.5       | 23   | 17.9 | 18.6 | 58.3                                      | 20.6       |
|                             | 1/2                    | KQG2H10-04S | 22                    |            | 28.6 | 22.2 |      | 58.3                                      | 51.1       |
|                             | 1/4                    | KQG2H12-02S | 19                    |            | 30.5 | 25.8 |      | 58.3                                      | 27.4       |
| ø16                         | 3/8                    | KQG2H12-03S | 22                    | 24.6       | 24.7 | 19.6 | 20.8 | 81                                        | 20.5       |
|                             | 1/2                    | KQG2H12-04S | 22                    |            | 28.7 | 22.3 |      | 113                                       | 44.6       |
|                             | 3/8                    | KQG2H16-03S | 24                    |            | 33.6 | 28.5 |      | 81                                        | 46         |
|                             | 1/2                    | KQG2H16-04S | 24                    |            | 29.5 | 23.1 |      | 113                                       | 37.4       |

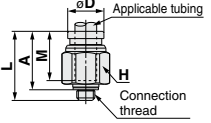
\* Reference dimensions after installation of R thread

Note 1) øD is maximum diameter.

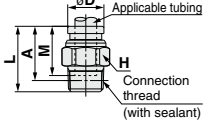
Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.

(M5)



(R)



### Hexagon Socket Head Male Connector: KQG2S



| Applicable tubing O.D. (mm) | Connection thread R, M | Model       | H (Width across flat) | Note 1) øD | L    | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------------------|-------------|-----------------------|------------|------|------|------|-------------------------------------------|------------|
| ø3.2                        | M5 x 0.8               | KQG2S23-M5  | 2                     | 9          | 16.5 | 13.5 | 12   | 3                                         | 2.8        |
|                             | 1/8                    | KQG2S04-M5  | 2                     | 9          | 17.1 | 14.1 | 12.6 | 4                                         | 3.7        |
|                             | 1/4                    | KQG2S04-01S | 3                     | 10         | 19.6 | 16.5 | 12.6 | 4.1                                       | 7.6        |
| ø4                          | M5 x 0.8               | KQG2S06-M5  | 2                     | 12         | 19.6 | 16.6 | 13.6 | 4                                         | 7.4        |
|                             | 1/8                    | KQG2S06-01S | 4                     | 14         | 20.6 | 17.5 |      | 10                                        | 8.7        |
|                             | 1/4                    | KQG2S06-02S | 4                     | 14         | 20.6 | 15.9 |      | 10.7                                      | 14         |
| ø6                          | 1/8                    | KQG2S08-01S | 5                     | 14         | 24.7 | 21.6 | 16.1 | 17.2                                      | 12.3       |
|                             | 1/4                    | KQG2S08-02S | 6                     | 17         | 22.9 | 18.2 |      | 23.3                                      | 12.8       |
|                             | 3/8                    | KQG2S08-03S | 6                     | 17         | 23.1 | 18   |      | 23.3                                      | 22.8       |
| ø8                          | 1/8                    | KQG2S10-01S | 5                     | 17         | 25.6 | 22.5 | 17   | 17.2                                      | 17.7       |
|                             | 1/4                    | KQG2S10-02S | 8                     | 22         | 27.5 | 22.8 |      | 39                                        | 19.1       |
|                             | 3/8                    | KQG2S10-03S | 8                     | 22         | 24   | 18.9 |      | 39                                        | 20.9       |
| ø10                         | 1/2                    | KQG2S10-04S | 8                     | 22         | 24   | 17.6 | 18.6 | 46                                        | 37.2       |
|                             | 1/4                    | KQG2S12-02S | 8                     | 19         | 30.6 | 25.9 |      | 46                                        | 24.8       |
|                             | 3/8                    | KQG2S12-03S | 10                    | 22         | 24.9 | 19.8 |      | 60                                        | 19.3       |
| ø12                         | 1/2                    | KQG2S12-04S | 10                    | 22         | 24.9 | 18.5 | 20.8 | 81                                        | 33.6       |
|                             | 3/8                    | KQG2S16-03S | 10                    | 24.6       | 33.2 | 28.1 |      | 81                                        | 41.6       |
|                             | 1/2                    | KQG2S16-04S | 12                    |            | 29.4 | 23   |      | 113                                       | 38.4       |

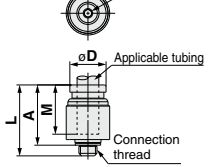
\* Reference dimensions after installation of R thread

Note 1) øD is maximum diameter.

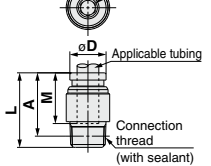
Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.

(M5)



(R)



### Straight Union: KQG2H

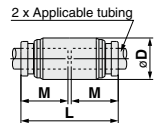


| Applicable tubing O.D. (mm) | Model      | øD Note 1) | L    | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|------------|------|------|-------------------------------------------|------------|
| ø3.2                        | KQG2H23-00 | 9          | 25   | 12   | 3.4                                       | 6.5        |
| ø4                          | KQG2H04-00 | 9          | 26.2 | 12.6 | 5.6                                       | 6.5        |
| ø6                          | KQG2H06-00 | 12         | 28.2 | 13.6 | 13.1                                      | 11.5       |
| ø8                          | KQG2H08-00 | 14         | 33.2 | 16.1 | 26.1                                      | 16.6       |
| ø10                         | KQG2H10-00 | 17         | 35   | 17   | 41.5                                      | 26         |
| ø12                         | KQG2H12-00 | 19         | 38.2 | 18.6 | 58.3                                      | 32.2       |
| ø16                         | KQG2H16-00 | 24.6       | 42.6 | 20.8 | 113                                       | 53.7       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



# KQG2 Series

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## Dimensions

### Male Elbow: KQG2L

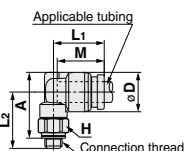


| Applicable tubing O.D. (mm) | Connection thread R, M | Model       | H (With across flt) | Note 1) øD | L1   | L2   | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------------------|-------------|---------------------|------------|------|------|------|------|-------------------------------------------|------------|
| ø3.2                        | M5 x 0.8               | KQG2L23-M5  | 8                   | 8.3        | 13.1 | 14.8 | 16   | 12   | 2.6                                       | 6.3        |
|                             | 1/8                    | KQG2L23-01S | 10                  |            | 13.6 | 14.9 | 15.9 |      | 3                                         | 7.6        |
|                             | 1/4                    | KQG2L23-02S | 14                  |            | 13.7 | 15.2 | 16.8 |      | 3.5                                       | 6.9        |
| ø4                          | M5 x 0.8               | KQG2L04-M5  | 8                   | 9.1        | 13.7 | 15.2 | 16.8 | 12.6 | 3.5                                       | 6.9        |
|                             | 1/8                    | KQG2L04-01S | 10                  |            | 14.4 | 15.3 | 16.7 |      | 4.2                                       | 8.5        |
|                             | 1/4                    | KQG2L04-02S | 14                  |            | 14.7 | 16.3 | 19   |      | 3.5                                       | 8.8        |
| ø6                          | M5 x 0.8               | KQG2L06-M5  | 8                   | 11.4       | 14.7 | 16.3 | 19   | 13.6 | 11.4                                      | 10.1       |
|                             | 1/8                    | KQG2L06-01S | 10                  |            | 15.9 | 20.2 | 21.2 |      | 18.4                                      | 18.4       |
|                             | 1/4                    | KQG2L06-02S | 14                  |            | 21.6 | 22.2 |      |      | 29.9                                      | 29.9       |
| ø8                          | M5 x 0.8               | KQG2L08-M5  | 8                   | 13.7       | 18.6 | 18.3 | 22   | 16.1 | 21.6                                      | 20.3       |
|                             | 1/8                    | KQG2L08-01S | 12                  |            | 19.1 | 21.5 | 23.6 |      | 31.6                                      | 31.6       |
|                             | 1/4                    | KQG2L08-02S | 14                  |            | 20   | 19.7 | 24.9 |      | 21.6                                      | 20.2       |
| ø10                         | M5 x 0.8               | KQG2L10-M5  | 8                   | 16.6       | 21   | 22.9 | 26.5 | 17   | 35.2                                      | 23.3       |
|                             | 1/8                    | KQG2L10-01S | 12                  |            | 21   | 24.3 | 27.5 |      | 33.6                                      | 33.6       |
|                             | 1/4                    | KQG2L10-02S | 14                  |            | 22   | 28.5 | 30.4 |      | 60.1                                      | 60.1       |
| ø12                         | M5 x 0.8               | KQG2L12-M5  | 8                   | 18.7       | 22.6 | 24   | 28.6 | 18.6 | 50.2                                      | 27.1       |
|                             | 1/8                    | KQG2L12-01S | 14                  |            | 23.6 | 25.3 | 29.5 |      | 33.7                                      | 33.7       |
|                             | 1/4                    | KQG2L12-04S | 22                  |            | 29.5 | 32.4 |      |      | 58.7                                      | 58.7       |
| ø16                         | M5 x 0.8               | KQG2L16-M5  | 8                   | 24.6       | 26.3 | 28   | 34.5 | 20.8 | 71                                        | 46.3       |
|                             | 1/8                    | KQG2L16-03S | 19                  |            | 27.3 | 31.8 | 37   |      | 100                                       | 61.3       |
|                             | 1/2                    | KQG2L16-04S | 22                  |            |      |      |      |      |                                           |            |

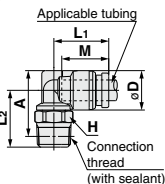
\* Reference dimensions after installation of R thread  
Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.  
Value of nylon tubing for ø16 only.

(M5)



(R)



### Male Branch Tee: KQG2T

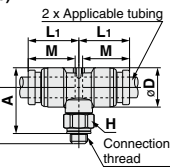


| Applicable tubing O.D. (mm) | Connection thread R, M | Model       | H (With across flt) | Note 1) øD | L1   | L2   | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------------------|-------------|---------------------|------------|------|------|------|------|-------------------------------------------|------------|
| ø3.2                        | M5 x 0.8               | KQG2T23-M5  | 8                   | 8.3        | 13.1 | 14.8 | 16   | 12   | 3.2                                       | 8.1        |
|                             | 1/8                    | KQG2T23-01S | 10                  |            | 13.6 | 14.9 | 15.9 |      | 3.4                                       | 9.4        |
|                             | 1/4                    | KQG2T23-02S | 14                  |            | 13.7 | 15.2 | 16.8 |      | 4.5                                       | 9          |
| ø4                          | M5 x 0.8               | KQG2T04-M5  | 8                   | 9.1        | 13.7 | 15.2 | 16.8 | 12.6 | 4.5                                       | 9          |
|                             | 1/8                    | KQG2T04-01S | 10                  |            | 14.4 | 15.3 | 16.7 |      | 6                                         | 10.4       |
|                             | 1/4                    | KQG2T04-02S | 14                  |            | 14.7 | 16.3 | 19   |      | 4.5                                       | 11.9       |
| ø6                          | M5 x 0.8               | KQG2T06-M5  | 8                   | 11.4       | 14.7 | 16.3 | 19   | 13.6 | 13.9                                      | 21.8       |
|                             | 1/8                    | KQG2T06-01S | 10                  |            | 15.9 | 20.2 | 21.2 |      | 33.3                                      | 33.3       |
|                             | 1/4                    | KQG2T06-02S | 14                  |            | 21.6 | 22.2 |      |      | 20                                        | 20         |
| ø8                          | M5 x 0.8               | KQG2T08-M5  | 8                   | 13.7       | 18.6 | 18.3 | 22   | 16.1 | 26.3                                      | 25.5       |
|                             | 1/8                    | KQG2T08-01S | 12                  |            | 19.1 | 21.5 | 23.6 |      | 36.8                                      | 36.8       |
|                             | 1/4                    | KQG2T08-02S | 14                  |            | 20   | 19.7 | 24.9 |      | 28.4                                      | 28.4       |
| ø10                         | M5 x 0.8               | KQG2T10-M5  | 8                   | 16.6       | 21   | 22.9 | 26.5 | 17   | 40.8                                      | 31.1       |
|                             | 1/8                    | KQG2T10-01S | 12                  |            | 21   | 24.3 | 27.5 |      | 41.4                                      | 41.4       |
|                             | 1/4                    | KQG2T10-02S | 14                  |            | 22   | 28.5 | 30.4 |      | 68                                        | 68         |
| ø12                         | M5 x 0.8               | KQG2T12-M5  | 8                   | 18.7       | 22.6 | 24   | 28.6 | 18.6 | 57.2                                      | 37.8       |
|                             | 1/8                    | KQG2T12-01S | 14                  |            | 23.6 | 25.3 | 29.5 |      | 68.8                                      | 68.8       |
|                             | 1/4                    | KQG2T12-04S | 22                  |            | 29.5 | 32.4 |      |      | 71                                        | 63.7       |
| ø16                         | M5 x 0.8               | KQG2T16-M5  | 8                   | 24.6       | 26.3 | 28   | 34.5 | 20.8 | 100                                       | 77.6       |
|                             | 1/8                    | KQG2T16-03S | 19                  |            | 27.3 | 31.8 | 37   |      |                                           |            |
|                             | 1/2                    | KQG2T16-04S | 22                  |            |      |      |      |      |                                           |            |

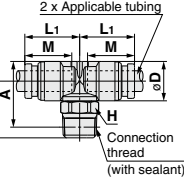
\* Reference dimensions after installation of R thread  
Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.  
Value of nylon tubing for ø16 only.

(M5)



(R)



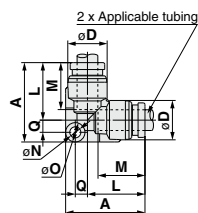
### Union Elbow: KQG2L



| Applicable tubing O.D. (mm) | Model      | Note 1) øD | L    | A    | Q   | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|------------|------|------|-----|------|-----|-----|-------------------------------------------|------------|
| ø3.2                        | KQG2L23-00 | 8.3        | 13.6 | 19.3 | 2.9 | 12   | 3.2 | 5.6 | 3                                         | 6.3        |
| ø4                          | KQG2L04-00 | 9.1        | 14.6 | 20.5 | 3.1 | 12.6 | 3.2 | 5.6 | 4.2                                       | 7.4        |
| ø6                          | KQG2L06-00 | 11.4       | 16.6 | 23   | 3.6 | 13.6 | 3.2 | 5.6 | 11.4                                      | 11         |
| ø8                          | KQG2L08-00 | 13.7       | 20.1 | 29.1 | 5   | 16.1 | 4.2 | 8   | 21.6                                      | 20.2       |
| ø10                         | KQG2L10-00 | 16.6       | 22   | 31.7 | 5.7 | 17   | 4.2 | 8   | 35.2                                      | 29.6       |
| ø12                         | KQG2L12-00 | 18.7       | 24.6 | 35   | 6.4 | 18.6 | 4.2 | 8   | 50.2                                      | 37.1       |
| ø16                         | KQG2L16-00 | 24.6       | 28.8 | 40.5 | 7.7 | 20.8 | 4.2 | 8   | 100                                       | 59.7       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.  
Value of nylon tubing for ø16 only.



# Stainless Steel 316 One-touch Fittings **KQG2 Series**

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## Dimensions

### Bulkhead Union: KQG2E

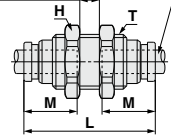


| Applicable tubing O.D. (mm) | Model      | T (M)   | H (Width across flat) | L    | Mounting hole | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|---------|-----------------------|------|---------------|------|-------------------------------------------|------------|
| ø3.2                        | KQG2E23-00 | M10 x 1 | 12                    | 32.2 | 11            | 12   | 3.4                                       | 14         |
| ø4                          | KQG2E04-00 | M10 x 1 | 12                    | 32.4 | 11            | 12.6 | 5.6                                       | 14         |
| ø6                          | KQG2E06-00 | M14 x 1 | 17                    | 33.6 | 15            | 13.6 | 13.1                                      | 25.8       |
| ø8                          | KQG2E08-00 | M15 x 1 | 19                    | 36.4 | 16            | 16.1 | 26.1                                      | 30.4       |
| ø10                         | KQG2E10-00 | M18 x 1 | 21                    | 37.2 | 19            | 17   | 41.5                                      | 40.3       |
| ø12                         | KQG2E12-00 | M20 x 1 | 24                    | 39.2 | 21            | 18.6 | 58.3                                      | 49.9       |
| ø16                         | KQG2E16-00 | M27 x 1 | 30                    | 42.6 | 28            | 20.8 | 113                                       | 87.3       |

Note) Value of FEP tubing.

Value of nylon tubing for ø16 only.

Mounting plate thickness 7 mm or smaller



### Union Tee: KQG2T

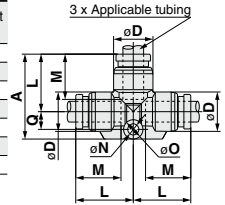


| Applicable tubing O.D. (mm) | Model      | Note 1) øD | L    | A    | Q    | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|------------|------|------|------|------|-----|-----|-------------------------------------------|------------|
| ø3.2                        | KQG2T23-00 | 8.3        | 13.6 | 20.5 | 4.1  | 12   | 3.2 | 5.6 | 3.4                                       | 7.9        |
| ø4                          | KQG2T04-00 | 9.1        | 14.6 | 21.8 | 4.4  | 12.6 | 3.2 | 5.6 | 6.4                                       | 9.5        |
| ø6                          | KQG2T06-00 | 11.4       | 16.6 | 24.6 | 5.2  | 13.6 | 3.2 | 5.6 | 13.4                                      | 14.2       |
| ø8                          | KQG2T08-00 | 13.7       | 20.1 | 31.1 | 7    | 16.1 | 4.2 | 8   | 25.6                                      | 24.4       |
| ø10                         | KQG2T10-00 | 16.6       | 22   | 34   | 8    | 17   | 4.2 | 8   | 40                                        | 36.8       |
| ø12                         | KQG2T12-00 | 18.7       | 24.6 | 37.7 | 9.1  | 18.6 | 4.2 | 8   | 57.4                                      | 46.9       |
| ø16                         | KQG2T16-00 | 24.6       | 28.8 | 43.4 | 10.6 | 20.8 | 4.2 | 8   | 100                                       | 75.5       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



### Union "Y": KQG2U

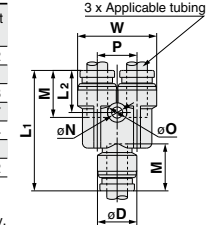


| Applicable tubing O.D. (mm) | Model      | Note 1) øD | W    | L1   | L2   | P    | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|------------|------|------|------|------|------|-----|-----|-------------------------------------------|------------|
| ø3.2                        | KQG2U23-00 | 8.3        | 16.4 | 29   | 11   | 8.1  | 12   | 3.2 | 5.6 | 3.4                                       | 9.2        |
| ø4                          | KQG2U04-00 | 9.1        | 18.2 | 30.4 | 11.3 | 9.1  | 12.6 | 3.2 | 5.6 | 4.2                                       | 11.1       |
| ø6                          | KQG2U06-00 | 11.4       | 22.9 | 34.9 | 12.2 | 11.5 | 13.6 | 3.2 | 5.6 | 13.4                                      | 18.8       |
| ø8                          | KQG2U08-00 | 13.7       | 28.3 | 40.1 | 14.1 | 14.6 | 16.1 | 4.2 | 8   | 25.6                                      | 29.7       |
| ø10                         | KQG2U10-00 | 16.6       | 34.2 | 44   | 14.4 | 17.6 | 17   | 4.2 | 8   | 40                                        | 47.4       |
| ø12                         | KQG2U12-00 | 18.7       | 38.5 | 48.4 | 15.8 | 19.8 | 18.6 | 4.2 | 8   | 57.4                                      | 62.1       |
| ø16                         | KQG2U16-00 | 24.6       | 49.3 | 56.6 | 17.3 | 26   | 20.8 | 4.2 | 8   | 113                                       | 110.2      |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



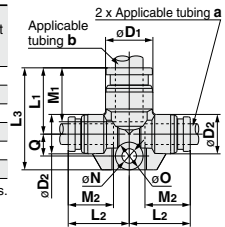
### Different Diameter Tee: KQG2T



| Applicable tubing O.D. (mm) | Model      | Note 1) øD1 | Note 1) øD2 | L1   | L2   | L3   | Q   | M1   | M2   | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|------------|-------------|-------------|------|------|------|-----|------|------|-----|-----|-------------------------------------------|------------|
| ø3.2 ø4                     | KQG2T23-04 | 9.1         | 8.3         | 14.2 | 14.1 | 21.1 | 4.1 | 12.6 | 12   | 3.2 | 5.6 | 3.8                                       | 8.5        |
| ø4 ø6                       | KQG2T04-06 | 11.4        | 9.1         | 15.6 | 15.7 | 22.8 | 4.4 | 13.6 | 12.6 | 3.2 | 5.6 | 7.1                                       | 11.5       |
| ø6 ø8                       | KQG2T06-08 | 13.7        | 11.4        | 19.1 | 17.7 | 29.5 | 6.4 | 16.1 | 13.6 | 4.2 | 8   | 16.4                                      | 20         |
| ø8 ø10                      | KQG2T08-10 | 16.6        | 13.7        | 21   | 21.2 | 32.1 | 7.1 | 17   | 16.1 | 4.2 | 8   | 36                                        | 29.8       |
| ø10 ø12                     | KQG2T10-12 | 18.7        | 16.6        | 23.6 | 23.1 | 35.7 | 8.1 | 18.6 | 17   | 4.2 | 8   | 56                                        | 41.3       |
| ø12 ø16                     | KQG2T12-16 | 24.6        | 18.7        | 26.8 | 26.7 | 39.9 | 9.1 | 20.8 | 18.6 | 4.2 | 8   | 108.5                                     | 58         |

Note 1) øD1, øD2 are maximum diameters.

Note 2) Value of FEP tubing.



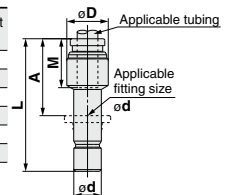
### Plug-in Reducer: KQG2R



| Applicable tubing O.D. (mm) | Applicable fitting size ød | Model      | Note 1) øD | L    | A    | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|----------------------------|------------|------------|------|------|------|-------------------------------------------|------------|
| ø3.2                        | ø4                         | KQG2R23-04 | 9          | 32.9 | 20.3 | 12   | 3.4                                       | 4.7        |
| ø4                          | ø6                         | KQG2R04-06 | 9          | 34.4 | 20.8 | 12.6 | 5.6                                       | 6.7        |
| ø6                          | ø8                         | KQG2R06-08 | 12         | 38.4 | 22.3 | 13.6 | 13.1                                      | 12.1       |
| ø8                          | ø10                        | KQG2R08-10 | 14         | 41.9 | 24.9 | 16.1 | 26.1                                      | 18.3       |
| ø10                         | ø12                        | KQG2R10-12 | 17         | 44.8 | 26.2 | 17   | 41.5                                      | 26.5       |
| ø12                         | ø16                        | KQG2R12-16 | 19         | 42.9 | 22.1 | 18.6 | 58.3                                      | 35.4       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



# KQG2 Series

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## Dimensions

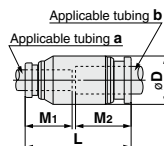
### Different Diameter Straight: KQG2H



| Applicable tubing O.D. (mm) |     | Model      | Note 1)<br>øD | L    | M <sub>1</sub> | M <sub>2</sub> | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|-----|------------|---------------|------|----------------|----------------|----------------------------------------------|------------|
| a                           | b   |            |               |      |                |                |                                              |            |
| ø3.2                        | ø4  | KQG2H23-04 | 9             | 25.6 | 12             | 12.6           | 3.4                                          | 6.5        |
| ø4                          | ø6  | KQG2H04-06 | 12            | 27.2 | 12.6           | 13.6           | 5.6                                          | 11.6       |
| ø6                          | ø8  | KQG2H06-08 | 14            | 30.7 | 13.6           | 16.1           | 13.1                                         | 16.3       |
| ø8                          | ø10 | KQG2H08-10 | 17            | 34.1 | 16.1           | 17             | 26.1                                         | 26         |
| ø10                         | ø12 | KQG2H10-12 | 19            | 36.6 | 17             | 18.6           | 41.5                                         | 33.3       |
| ø12                         | ø16 | KQG2H12-16 | 24.6          | 40.4 | 18.6           | 20.8           | 58.3                                         | 54.7       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



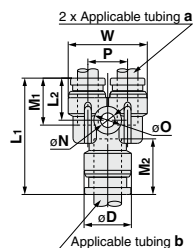
### Different Diameter Union "Y": KQG2U



| Applicable tubing O.D. (mm) |     | Model      | Note 1)<br>øD | L <sub>1</sub> | L <sub>2</sub> | P    | W    | M <sub>1</sub> | M <sub>2</sub> | øN  | øO  | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|-----|------------|---------------|----------------|----------------|------|------|----------------|----------------|-----|-----|----------------------------------------------|------------|
| a                           | b   |            |               |                |                |      |      |                |                |     |     |                                              |            |
| ø3.2                        | ø4  | KQG2U23-04 | 9.1           | 27             | 10.8           | 8.1  | 16.4 | 12             | 12.6           | 3.2 | 5.6 | 3.2                                          | 8.5        |
| ø4                          | ø6  | KQG2U04-06 | 11.4          | 29.3           | 11.2           | 9.1  | 18.2 | 12.6           | 13.6           | 3.2 | 5.6 | 4.2                                          | 11.9       |
| ø6                          | ø8  | KQG2U06-08 | 13.7          | 33.7           | 12.2           | 11.5 | 22.9 | 13.6           | 16.1           | 4.2 | 8   | 13.4                                         | 19.3       |
| ø8                          | ø10 | KQG2U08-10 | 16.6          | 38.3           | 13.8           | 14.6 | 28.3 | 16.1           | 17             | 4.2 | 8   | 25.6                                         | 31.6       |
| ø10                         | ø12 | KQG2U10-12 | 18.7          | 43             | 14             | 17.6 | 34.2 | 17             | 18.6           | 4.2 | 8   | 40                                           | 47.6       |
| ø12                         | ø16 | KQG2U12-16 | 24.6          | 47.4           | 15.6           | 19.8 | 38.5 | 18.6           | 20.8           | 4.2 | 8   | 57.4                                         | 67.6       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



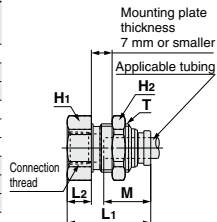
### Bulkhead Connector: KQG2E



| Applicable tubing O.D. (mm) | Connection thread Rc | Model      | T (M)   | Width across flat |                | L <sub>1</sub> | L <sub>2</sub> | Mounting hole | M    | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-----------------------------|----------------------|------------|---------|-------------------|----------------|----------------|----------------|---------------|------|----------------------------------------------|------------|
|                             |                      |            |         | H <sub>1</sub>    | H <sub>2</sub> |                |                |               |      |                                              |            |
| ø3.2                        | 1/4                  | KQG2E23-02 | M10 x 1 | 17                | 12             | 31             | 14.8           | 11            | 12   | 3.4                                          | 26.1       |
|                             | 1/8                  | KQG2E04-01 |         | 14                |                | 25.8           | 9.7            |               |      |                                              | 16         |
| ø4                          | 1/4                  | KQG2E04-02 | M10 x 1 | 17                | 12             | 30.9           | 14.8           | 11            | 12.6 | 5.6                                          | 25.6       |
|                             | 1/8                  | KQG2E06-01 |         |                   |                | 24.2           | 7              |               |      |                                              | 24.4       |
| ø6                          | 1/4                  | KQG2E06-02 | M14 x 1 | 17                | 17             | 30.9           | 13.7           | 15            | 13.6 | 13.1                                         | 30.9       |
|                             | 3/8                  | KQG2E06-03 |         | 19                |                | 32.1           | 14.9           |               |      |                                              | 32         |
| ø8                          | 1/8                  | KQG2E08-01 | M15 x 1 |                   |                | 26.3           | 8.1            |               |      |                                              | 28         |
|                             | 1/4                  | KQG2E08-02 |         | 17                | 19             | 31.3           | 13.1           | 16            | 16.1 | 26.1                                         | 31.2       |
| ø10                         | 3/8                  | KQG2E08-03 | M15 x 1 | 19                |                | 32.8           | 14.6           |               |      |                                              | 32.7       |
|                             | 1/4                  | KQG2E10-02 |         |                   |                | 31.6           | 13             |               |      |                                              | 42.8       |
| ø12                         | 3/8                  | KQG2E10-03 | M18 x 1 | 19                | 21             | 33             | 14.4           | 19            | 17   | 41.5                                         | 37.5       |
|                             | 1/2                  | KQG2E12-04 |         | 21                | 24             | 34             | 14.4           | 21            | 18.6 | 58.3                                         | 50.3       |
| ø16                         | 3/8                  | KQG2E16-03 | M20 x 1 |                   |                | 39.3           | 19.7           |               |      |                                              | 60.7       |
|                             | 1/2                  | KQG2E16-04 |         | 29                | 30             | 35.3           | 13.3           | 28            | 20.8 | 96                                           | 107.8      |
|                             |                      |            |         |                   |                | 40.6           | 18.6           |               |      | 113                                          | 114.6      |

Note) Value of FEP tubing.

Value of nylon tubing for ø16 only.



# Stainless Steel 316 One-touch Fittings **KQG2 Series**

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

## Dimensions

### Extended Male Elbow: KQG2W



| Applicable tubing O.D. (mm) | Connection thread R, M | Model       | H (Width across flat) | Note 1) øD | L1   | L2   | A*   | M    | Note 2) Effective area (mm²) | Weight (g) |
|-----------------------------|------------------------|-------------|-----------------------|------------|------|------|------|------|------------------------------|------------|
| ø3.2                        | M5 x 0.8               | KQG2W23-M5  | 8                     | 8.3        | 13.1 | 31.2 | 32.4 | 12   | 2.8                          | 13         |
|                             | 1/8                    | KQG2W23-01S | 10                    |            | 13.6 | 31.3 | 32.3 |      |                              | 14.7       |
|                             | 1/4                    | KQG2W23-02S | 14                    |            | 13.7 | 31.6 | 33.2 |      |                              | 33.1       |
| ø4                          | M5 x 0.8               | KQG2W04-M5  | 8                     | 9.1        | 13.7 | 31.6 | 33.2 | 12.6 | 3                            | 13.6       |
|                             | 1/8                    | KQG2W04-01S | 10                    |            | 14.4 | 31.7 | 33.1 |      |                              | 15.6       |
|                             | 1/4                    | KQG2W04-02S | 14                    |            | 14.7 | 32.7 | 35.4 |      |                              | 33.9       |
| ø6                          | M5 x 0.8               | KQG2W06-M5  | 8                     | 11.4       | 14.7 | 32.7 | 35.4 | 13.6 | 3                            | 15.5       |
|                             | 1/8                    | KQG2W06-01S | 10                    |            | 15.9 | 36.6 | 37.6 |      |                              | 17.2       |
|                             | 1/4                    | KQG2W06-02S | 14                    |            | 17.3 | 38.6 | 38.6 |      |                              | 35.5       |
| ø8                          | 1/8                    | KQG2W08-01S | 12                    | 13.7       | 18.6 | 37   | 40.7 | 16.1 | 20.5                         | 28         |
|                             | 1/4                    | KQG2W08-02S | 14                    |            | 19.1 | 40.2 | 42.3 |      |                              | 37.7       |
|                             | 3/8                    | KQG2W08-03S | 17                    |            | 21   | 41.6 | 43.3 |      |                              | 60.9       |
| ø10                         | 1/4                    | KQG2W10-02S | 14                    | 16.6       | 21   | 45.9 | 49.1 | 17   | 33.5                         | 40.7       |
|                             | 3/8                    | KQG2W10-03S | 17                    |            | 22   | 50.1 | 52   |      |                              | 61.9       |
|                             | 1/2                    | KQG2W10-04S | 22                    |            | 22.6 | 47.7 | 52.3 |      |                              | 117.3      |
| ø12                         | 1/4                    | KQG2W12-02S | 14                    | 18.7       | 23.6 | 49   | 53.2 | 18.6 | 47.7                         | 44.6       |
|                             | 3/8                    | KQG2W12-03S | 17                    |            | 27.3 | 53.2 | 56.1 |      |                              | 56.3       |
|                             | 1/2                    | KQG2W12-04S | 22                    |            | 26.3 | 57.6 | 64.1 |      |                              | 112.9      |
| ø16                         | 3/8                    | KQG2W16-03S | 19                    | 24.6       | 27.3 | 61.4 | 66.6 | 20.8 | 71                           | 86.6       |
|                             | 1/2                    | KQG2W16-04S | 22                    |            |      |      |      |      | 100                          | 111.8      |

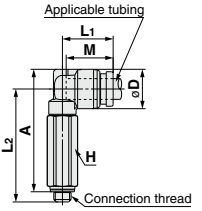
\* Reference dimensions after installation of R thread

Note 1) øD is maximum diameter.

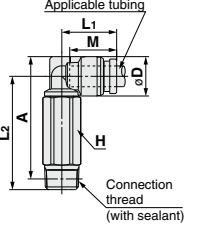
Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.

(M5)



(R)

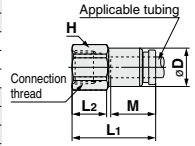


### Female Connector: KQG2F



| Applicable tubing O.D. (mm) | Connection thread Rc | Model      | H (Width across flat) | Note 1) øD | L1   | L2   | M    | Note 2) Effective area (mm²) | Weight (g) |
|-----------------------------|----------------------|------------|-----------------------|------------|------|------|------|------------------------------|------------|
| ø3.2                        | 1/8                  | KQG2F23-01 | 12                    | 8          | 23.3 | 9.8  | 12   | 3.4                          | 8.9        |
|                             | 1/8                  | KQG2F04-01 | 12                    |            | 23.7 | 9.8  |      |                              | 9.2        |
| ø4                          | 1/4                  | KQG2F04-02 | 17                    | 8.7        | 28.7 | 13.2 | 12.6 | 5.6                          | 21.6       |
|                             | 1/8                  | KQG2F06-01 | 12                    |            | 24.2 | 10   |      |                              | 10.5       |
| ø6                          | 1/4                  | KQG2F06-02 | 17                    | 11.1       | 29.2 | 13.4 | 13.6 | 13.1                         | 23.1       |
|                             | 3/8                  | KQG2F06-03 | 19                    |            | 30.6 | 14.2 |      |                              | 24.5       |
|                             | 1/8                  | KQG2F08-01 | 14                    |            | 26.3 | 9.6  |      |                              | 16.3       |
| ø8                          | 1/4                  | KQG2F08-02 | 17                    | 13.4       | 31.3 | 13.7 | 16.1 | 26.1                         | 25.5       |
|                             | 3/8                  | KQG2F08-03 | 19                    |            | 32.7 | 14.4 |      |                              | 27         |
|                             | 1/4                  | KQG2F10-02 | 17                    | 16.4       | 31.6 | 13.9 | 17   | 41.5                         | 28.8       |
| ø10                         | 3/8                  | KQG2F10-03 | 19                    |            | 33   | 14.7 |      |                              | 30.4       |
|                             | 1/4                  | KQG2F12-02 | 19                    |            | 32.6 | 13.3 |      |                              | 37.5       |
| ø12                         | 3/8                  | KQG2F12-03 | 19                    | 18.5       | 34   | 14.7 | 18.6 | 58.3                         | 32.3       |
|                             | 1/2                  | KQG2F12-04 | 24                    |            | 39.3 | 18.4 |      |                              | 50.2       |
|                             | 3/8                  | KQG2F16-03 | 24                    | 24.6       | 35.3 | 13.5 | 20.8 | 81                           | 59.7       |
| ø16                         | 1/2                  | KQG2F16-04 | 24                    |            | 40.6 | 18.8 |      |                              | 113        |

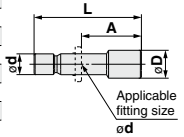
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.  
Value of nylon tubing for ø16 only.



### Plug: KQG2P



| Applicable fitting size ød | Model    | øD | L    | A    | Weight (g) |
|----------------------------|----------|----|------|------|------------|
| ø3.2                       | KQG2P-23 | 5  | 28.9 | 16.9 | 2.7        |
| ø4                         | KQG2P-04 | 6  | 29.6 | 17   | 4.1        |
| ø6                         | KQG2P-06 | 8  | 30.8 | 17.2 | 8.5        |
| ø8                         | KQG2P-08 | 10 | 33.7 | 17.6 | 15.5       |
| ø10                        | KQG2P-10 | 12 | 34.6 | 17.6 | 24.1       |
| ø12                        | KQG2P-12 | 14 | 36.5 | 17.9 | 35.8       |
| ø16                        | KQG2P-16 | 18 | 38.6 | 17.8 | 65.5       |



## Related Equipment



### Spatter cover

(Applicable tubing: FR soft nylon, FR double layer, FR three-layer)

| Applicable tubing O.D. (mm) | Model          |
|-----------------------------|----------------|
| ø6                          | KQB2-06C-X1124 |
| ø8                          | KQB2-08C-X1124 |
| ø10                         | KQB2-10C-X1124 |

\* Since the spatter cover is designed for multi-layer (double layer, three-layer) tubing, sufficient effects cannot be obtained in foreign matter flow-in or followability for singlelayer tubing.

\* The cover can be attached regardless of the single-layer/multi-layer tubing.

\* Cannot be used for union "Y" (KQG2U) 2-port side.



# Stainless Steel 316 One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

## KQG2 Series

RoHS



### Applicable Tubing

|                 |                                                                           |
|-----------------|---------------------------------------------------------------------------|
| Tubing material | FEP, PFA, Nylon, Soft nylon <sup>Note 1)</sup> , Polyurethane, Polyolefin |
| Tubing O.D.     | ø1/8", ø5/32", ø1/4", ø5/16", ø3/8", ø1/2"                                |

### Specifications

|                                                  |                                                         |
|--------------------------------------------------|---------------------------------------------------------|
| Fluid                                            | Air, Water, Steam <sup>Note 2)</sup> <sup>Note 3)</sup> |
| Operating pressure range <sup>Note 4)</sup>      | −100 kPa to 1 MPa <sup>Note 5)</sup>                    |
| Proof pressure                                   | 3.0 MPa                                                 |
| Ambient and fluid temperature <sup>Note 6)</sup> | −5 to 150°C (No freezing) <sup>Note 5)</sup>            |
| Lubricant                                        | Grease-free specification                               |
| Seal on the threads                              | With sealant                                            |

Note 1) For soft nylon tubing, water cannot be used.

Note 2) Consult with SMC regarding applicable tubing separately.

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

Note 4) Avoid using in a vacuum holding application such as a leak tester, since there is leakage.

Note 5) Check the operating pressure range and operating temperature range of the tubing.

Note 6) It is recommended that you use the inner sleeve in the following conditions (Except ø1/8"):

- When using in an environment where the fluid temperature changes drastically.
- When using at a high temperature.

#### \* Temperature Condition of Mounting the Inner Sleeve

| Tubing                     | Temperature   |
|----------------------------|---------------|
| FEP tubing/TH Series       | 80°C or more  |
| Super PFA tubing/TL Series | 120°C or more |

### Spare Parts

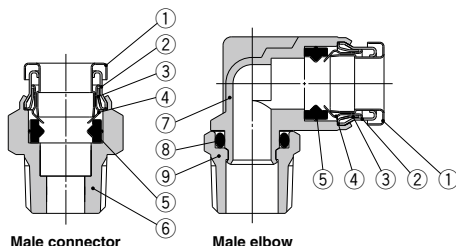
| Description  | Tubing O.D.   | Part no.          | Material                         |
|--------------|---------------|-------------------|----------------------------------|
| Gasket       | —             | <b>M-5G3</b>      | Stainless steel 316, Special FKM |
| Bulkhead nut | ø1/8", ø5/32" | <b>KQG201-P01</b> | Stainless steel 316              |
|              | ø1/4"         | <b>KQG207-P01</b> |                                  |
|              | ø5/16"        | <b>KQG209-P01</b> |                                  |
|              | ø3/8"         | <b>KQG211-P01</b> |                                  |
|              | ø1/2"         | <b>KQG213-P01</b> |                                  |

### Cross Reference Table of the Inner Sleeve

| Tubing O.D. | Tubing material |                    | Applicable inner sleeve |        |
|-------------|-----------------|--------------------|-------------------------|--------|
|             | TH/THI (FEP)    | TL/TIL (Super PFA) | Part no.                | Length |
| ø5/32"      | TH0402          | —                  | <b>TJG-0402</b>         | 18     |
|             | TH0425          | —                  | <b>TJG-0425</b>         | 18     |
|             | —               | TL0403             | <b>TJG-0403</b>         | 18     |
| ø1/4"       | THB07           | TIL07              | <b>TJG-0604</b>         | 19     |
|             | THA07           | —                  | <b>TJG-0746</b>         | 19     |
| ø5/16"      | TH0806          | TL0806             | <b>TJG-0806</b>         | 20.5   |
| ø3/8"       | THB11           | TIL11              | <b>TJG-1065</b>         | 23     |
|             | THA11           | —                  | <b>TJG-1107</b>         | 23     |
| ø1/2"       | TH13            | TIL13              | <b>TJG-1395</b>         | 24     |

\* Stainless steel 316 is used for the TJG series.

### Construction



### Component Parts

| No. | Description                | Material                    |
|-----|----------------------------|-----------------------------|
| 1   | <b>Release button</b>      | Stainless steel 316         |
| 2   | <b>Guide 1</b>             | Stainless steel 316         |
| 3   | <b>Guide 2</b>             | Stainless steel 316         |
| 4   | <b>Chuck</b>               | Stainless steel 316         |
| 5   | <b>Seal</b>                | Special FKM (Fluoro coated) |
| 6   | <b>Male connector body</b> | Stainless steel 316         |
| 7   | <b>Male elbow body</b>     | Stainless steel 316         |
| 8   | <b>O-ring</b>              | Special FKM (Fluoro coated) |
| 9   | <b>Stud</b>                | Stainless steel 316         |

# Stainless Steel 316 One-touch Fittings **KQG2 Series**

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

## Dimensions

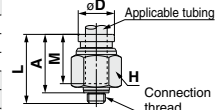
### Male Connector: KQG2H



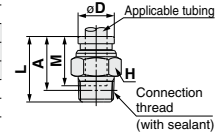
| Applicable tubing O.D. (inch) | Connection thread UNF, NPT | Model        | H (Width across flat) | Note 1) øD | L    | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|----------------------------|--------------|-----------------------|------------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | 10-32UNF                   | KQG2H01-32   | 8                     | 8          | 16.5 | 13.5 | 12   | 3                                         | 3.3        |
|                               | 1/8                        | KQG2H01-N01S | 12                    |            | 17.1 | 13.9 |      | 3.4                                       | 8.1        |
|                               | 1/4                        | KQG2H01-N02S | 14                    |            | 20.9 | 16.5 |      | 4                                         | 16.9       |
| ø5/32"                        | 10-32UNF                   | KQG2H03-32   | 10                    | 8.7        | 17.1 | 14.1 | 12.6 | 4                                         | 5          |
|                               | 1/8                        | KQG2H03-N01S | 12                    |            | 17   | 13.8 |      | 5.6                                       | 7.6        |
|                               | 1/4                        | KQG2H03-N02S | 14                    |            | 20.9 | 16.5 |      | 4                                         | 16.4       |
| ø1/4"                         | 10-32UNF                   | KQG2H07-32   | 12                    | 11.2       | 19   | 16   | 13.5 | 4                                         | 7.5        |
|                               | 1/8                        | KQG2H07-N01S | 14                    |            | 20   | 16.8 |      | 13.1                                      | 8.6        |
|                               | 1/4                        | KQG2H07-N02S | 14                    |            | 20.6 | 16.2 |      | 13.1                                      | 14.2       |
| ø5/16"                        | 10-32UNF                   | KQG2H09-N01S | 14                    | 13.4       | 23.8 | 19.1 | 16.1 | 13.1                                      | 31.4       |
|                               | 3/8                        | KQG2H09-N03S | 19                    |            | 24.2 | 21   |      | 26.1                                      | 12.6       |
|                               | 1/4                        | KQG2H09-N02S | 14                    |            | 23.1 | 18.7 |      | 26.1                                      | 13.9       |
| ø3/8"                         | 10-32UNF                   | KQG2H11-N01S | 17                    | 16         | 24.6 | 19.9 | 16.6 | 26.1                                      | 28.9       |
|                               | 1/8                        | KQG2H11-N01S | 19                    |            | 25   | 21.8 |      | 41.5                                      | 19.4       |
|                               | 1/4                        | KQG2H11-N02S | 17                    |            | 26.3 | 21.9 |      | 41.5                                      | 20.3       |
| ø1/2"                         | 10-32UNF                   | KQG2H13-N01S | 22                    | 19.3       | 23.6 | 18.9 | 18.5 | 58.3                                      | 25.2       |
|                               | 3/8                        | KQG2H13-N03S | 22                    |            | 28.3 | 21.9 |      | 58.3                                      | 51.8       |
|                               | 1/2                        | KQG2H13-N04S | 22                    |            | 30.5 | 26.1 |      | 58.3                                      | 36.7       |
| ø1/2"                         | 10-32UNF                   | KQG2H13-N02S | 22                    | 19.3       | 28.4 | 23.7 | 18.5 | 58.3                                      | 34.4       |
|                               | 3/8                        | KQG2H13-N03S | 22                    |            | 28.4 | 23.7 |      | 58.3                                      | 34.4       |
|                               | 1/2                        | KQG2H13-N04S | 22                    |            | 28.4 | 22   |      | 58.3                                      | 43.4       |

\* Reference dimensions after installation of NPT thread  
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

(10-32UNF)



(NPT)



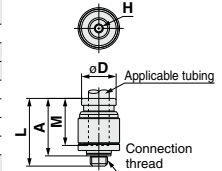
### Hexagon Socket Head Male Connector: KQG2S



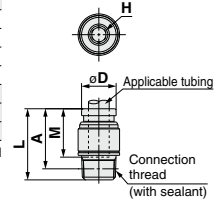
| Applicable tubing O.D. (inch) | Connection thread UNF, NPT | Model        | H (Width across flat) | Note 1) øD | L    | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|----------------------------|--------------|-----------------------|------------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | 10-32UNF                   | KQG2S01-32   | 2                     | 9          | 16.5 | 13.5 | 12   | 3                                         | 3.8        |
|                               | 10-32UNF                   | KQG2S03-32   | 2                     |            | 19   | 17.1 |      | 4                                         | 3.7        |
|                               | 1/8                        | KQG2S03-N01S | 2.78                  |            | 11   | 19.6 |      | 4.1                                       | 8.5        |
| ø5/32"                        | 10-32UNF                   | KQG2S07-32   | 2                     | 12         | 19.5 | 16.5 | 12.6 | 4                                         | 7.2        |
|                               | 1/8                        | KQG2S07-N01S | 4.76                  |            | 17.3 | 17.3 |      | 10                                        | 8.1        |
|                               | 1/4                        | KQG2S07-N02S | 4.76                  |            | 14   | 20.5 |      | 10.7                                      | 13.4       |
| ø1/4"                         | 10-32UNF                   | KQG2S09-N01S | 5.56                  | 14         | 24.7 | 21.5 | 16.1 | 17.2                                      | 22.6       |
|                               | 1/8                        | KQG2S09-N01S | 5.56                  |            | 24.7 | 21.5 |      | 17.2                                      | 12         |
|                               | 1/4                        | KQG2S09-N02S | 6.35                  |            | 23.1 | 18.7 |      | 23.3                                      | 12.8       |
| ø5/16"                        | 10-32UNF                   | KQG2S09-N03S | 6.35                  | 18         | 23.1 | 18.4 | 16.6 | 23.3                                      | 23.5       |
|                               | 1/8                        | KQG2S11-N01S | 5.56                  |            | 25.2 | 22   |      | 17.2                                      | 17.8       |
|                               | 1/4                        | KQG2S11-N02S | 5.56                  |            | 27.1 | 22.7 |      | 21.2                                      | 21.2       |
| ø3/8"                         | 10-32UNF                   | KQG2S11-N03S | 6.35                  | 22         | 23.6 | 18.9 | 16.6 | 39                                        | 23.8       |
|                               | 1/8                        | KQG2S11-N03S | 6.35                  |            | 23.6 | 18.9 |      | 39                                        | 23.8       |
|                               | 1/2                        | KQG2S11-N04S | 6.35                  |            | 22   | 17.2 |      | 39                                        | 38.6       |
| ø1/2"                         | 10-32UNF                   | KQG2S13-N02S | 8                     | 20         | 30.5 | 26.1 | 18.5 | 46                                        | 26.6       |
|                               | 1/4                        | KQG2S13-N02S | 8                     |            | 29.4 | 24.7 |      | 60                                        | 29         |
|                               | 3/8                        | KQG2S13-N03S | 9.53                  |            | 29.4 | 24.7 |      | 60                                        | 29         |
| ø1/2"                         | 10-32UNF                   | KQG2S13-N04S | 9.53                  | 22         | 25.5 | 19.1 | 18.5 | 60                                        | 34.8       |
|                               | 1/2                        | KQG2S13-N04S | 9.53                  |            | 25.5 | 19.1 |      | 60                                        | 34.8       |

\* Reference dimensions after installation of NPT thread  
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

(10-32UNF)



(NPT)

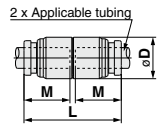


### Straight Union: KQG2H



| Applicable tubing O.D. (inch) | Model      | øD Note 1) | L    | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|------------|------|------|-------------------------------------------|------------|
| ø1/8"                         | KQG2H01-00 | 9          | 25   | 12   | 3.4                                       | 6.5        |
| ø5/32"                        | KQG2H03-00 | 9          | 26.2 | 12.6 | 5.6                                       | 6.5        |
| ø1/4"                         | KQG2H07-00 | 12         | 28   | 13.5 | 13.1                                      | 11         |
| ø5/16"                        | KQG2H09-00 | 14         | 33.2 | 16.1 | 26.1                                      | 16.6       |
| ø3/8"                         | KQG2H11-00 | 16         | 34.2 | 16.6 | 41.5                                      | 22.7       |
| ø1/2"                         | KQG2H13-00 | 20         | 38   | 18.5 | 58.3                                      | 35.5       |

Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.



# KQG2 Series

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

## Dimensions

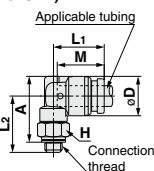
### Male Elbow: KQG2L



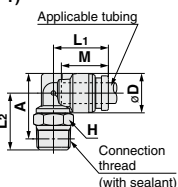
| Applicable tubing O.D. (inch) | Connection thread UNF, NPT | Model        | H (With across flt) | Note 1) øD | L1   | L2   | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|----------------------------|--------------|---------------------|------------|------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | 10-32UNF                   | KQG2L01-32   | 8                   | 8.3        | 13.1 | 14.8 | 16   | 12   | 2.6                                       | 6.3        |
|                               | 1/8                        | KQG2L01-N01S | 12                  |            | 13.6 | 14.9 | 15.8 |      | 3                                         | 9          |
|                               | 1/4                        | KQG2L01-N02S | 14                  |            | 13.7 | 15.2 | 16.8 |      | 3.5                                       | 16.7       |
| ø5/32"                        | 10-32UNF                   | KQG2L03-32   | 8                   | 9.1        | 13.7 | 15.2 | 16.8 | 12.6 | 3                                         | 6.9        |
|                               | 1/8                        | KQG2L03-N01S | 12                  |            | 14.4 | 15.3 | 16.6 |      | 4.2                                       | 9.9        |
|                               | 1/4                        | KQG2L03-N02S | 14                  |            | 14.7 | 16.5 | 19.3 |      | 3.5                                       | 17.6       |
| ø1/4"                         | 10-32UNF                   | KQG2L07-32   | 8                   | 11.7       | 14.7 | 16.5 | 19.3 | 13.5 | 3.5                                       | 8.9        |
|                               | 1/8                        | KQG2L07-N01S | 12                  |            | 15.9 | 16.6 | 19.2 |      | 11.4                                      | 11.7       |
|                               | 1/4                        | KQG2L07-N02S | 14                  |            | 20.4 | 21.8 | 24.2 |      | 19.4                                      | 19.4       |
| ø5/16"                        | 10-32UNF                   | KQG2L09-N01S | 12                  | 13.7       | 18.6 | 18.3 | 21.9 | 16.1 | 21.6                                      | 15.1       |
|                               | 1/4                        | KQG2L09-N02S | 14                  |            | 19.1 | 21.5 | 23.9 |      | 21.6                                      | 21.1       |
|                               | 3/8                        | KQG2L09-N03S | 19                  |            | 23.3 | 25.4 | 28.2 |      | 35.2                                      | 35.7       |
| ø3/8"                         | 10-32UNF                   | KQG2L11-N01S | 12                  | 16         | 20   | 19.4 | 24.2 | 16.6 | 21.6                                      | 19.7       |
|                               | 1/4                        | KQG2L11-N02S | 14                  |            | 21   | 22.6 | 26.2 |      | 21.6                                      | 23.2       |
|                               | 3/8                        | KQG2L11-N03S | 19                  |            | 24.4 | 27.7 | 29.8 |      | 35.2                                      | 36.7       |
| ø1/2"                         | 10-32UNF                   | KQG2L13-N01S | 12                  | 19.6       | 22.7 | 24.4 | 29.8 | 18.5 | 50.2                                      | 29.4       |
|                               | 3/8                        | KQG2L13-N02S | 19                  |            | 26.1 | 31.2 | 33.3 |      | 50.2                                      | 39.2       |
|                               | 1/2                        | KQG2L13-N04S | 22                  |            | 29.9 | 33.3 | 33.3 |      | 50.2                                      | 61.3       |

\* Reference dimensions after installation of NPT thread  
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

(10-32UNF)



(NPT)



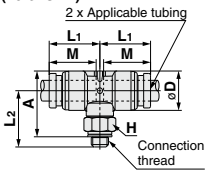
### Male Branch Tee: KQG2T



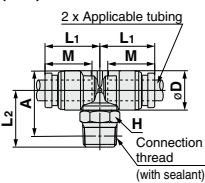
| Applicable tubing O.D. (inch) | Connection thread UNF, NPT | Model        | H (With across flt) | Note 1) øD | L1   | L2   | A*   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|----------------------------|--------------|---------------------|------------|------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | 10-32UNF                   | KQG2T01-32   | 8                   | 8.3        | 13.1 | 14.8 | 16   | 12   | 3.2                                       | 8.1        |
|                               | 1/8                        | KQG2T01-N01S | 12                  |            | 13.6 | 14.9 | 15.8 |      | 3.4                                       | 10.8       |
|                               | 1/4                        | KQG2T01-N02S | 14                  |            | 13.7 | 15.2 | 16.8 |      | 4.5                                       | 9          |
| ø5/32"                        | 10-32UNF                   | KQG2T03-32   | 8                   | 9.1        | 13.7 | 15.2 | 16.8 | 12.6 | 3                                         | 6.9        |
|                               | 1/8                        | KQG2T03-N01S | 12                  |            | 14.4 | 15.3 | 16.6 |      | 4.2                                       | 9.9        |
|                               | 1/4                        | KQG2T03-N02S | 14                  |            | 14.7 | 16.5 | 19.3 |      | 3.5                                       | 17.6       |
| ø1/4"                         | 10-32UNF                   | KQG2T07-32   | 8                   | 11.7       | 14.7 | 16.5 | 19.3 | 13.5 | 3.5                                       | 8.9        |
|                               | 1/8                        | KQG2T07-N01S | 12                  |            | 15.9 | 16.6 | 19.2 |      | 11.4                                      | 11.7       |
|                               | 1/4                        | KQG2T07-N02S | 14                  |            | 20.4 | 21.8 | 24.2 |      | 19.4                                      | 19.4       |
| ø5/16"                        | 10-32UNF                   | KQG2T09-N01S | 12                  | 13.7       | 18.6 | 18.3 | 21.9 | 16.1 | 21.6                                      | 15.1       |
|                               | 1/4                        | KQG2T09-N02S | 14                  |            | 19.1 | 21.5 | 23.9 |      | 21.6                                      | 21.1       |
|                               | 3/8                        | KQG2T09-N03S | 19                  |            | 23.3 | 25.4 | 28.2 |      | 35.2                                      | 35.7       |
| ø3/8"                         | 10-32UNF                   | KQG2T11-N01S | 12                  | 16         | 20   | 19.4 | 24.2 | 16.6 | 21.6                                      | 19.7       |
|                               | 1/4                        | KQG2T11-N02S | 14                  |            | 21   | 22.6 | 26.2 |      | 21.6                                      | 23.2       |
|                               | 3/8                        | KQG2T11-N03S | 19                  |            | 24.4 | 27.7 | 29.8 |      | 35.2                                      | 36.7       |
| ø1/2"                         | 10-32UNF                   | KQG2T13-N01S | 12                  | 19.6       | 22.7 | 24.4 | 29.8 | 18.5 | 50.2                                      | 29.4       |
|                               | 3/8                        | KQG2T13-N02S | 19                  |            | 26.1 | 31.2 | 33.3 |      | 50.2                                      | 39.2       |
|                               | 1/2                        | KQG2T13-N04S | 22                  |            | 29.9 | 33.3 | 33.3 |      | 50.2                                      | 61.3       |

\* Reference dimensions after installation of NPT thread  
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

(10-32UNF)



(NPT)

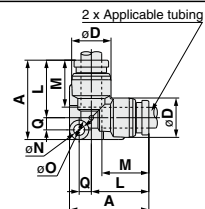


### Union Elbow: KQG2L



| Applicable tubing O.D. (inch) | Model      | Note 1) øD | L    | A    | Q   | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|------------|------|------|-----|------|-----|-----|-------------------------------------------|------------|
| ø1/8"                         | KQG2L01-00 | 8.3        | 13.6 | 19.3 | 2.9 | 12   | 3.2 | 5.6 | 3                                         | 6.3        |
| ø5/32"                        | KQG2L03-00 | 9.1        | 14.6 | 20.5 | 3.1 | 12.6 | 3.2 | 5.6 | 4.2                                       | 7.4        |
| ø1/4"                         | KQG2L07-00 | 11.7       | 16.7 | 23.2 | 3.7 | 13.5 | 3.2 | 5.6 | 11.4                                      | 11.5       |
| ø5/16"                        | KQG2L09-00 | 13.7       | 20.1 | 29.1 | 5   | 16.1 | 4.2 | 8   | 21.6                                      | 20.2       |
| ø3/8"                         | KQG2L11-00 | 16         | 21.4 | 31.1 | 5.7 | 16.6 | 4.2 | 8   | 35.2                                      | 28.2       |
| ø1/2"                         | KQG2L13-00 | 19.6       | 24.9 | 35.3 | 6.4 | 18.5 | 4.2 | 8   | 50.2                                      | 41.7       |

Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.



# Stainless Steel 316 One-touch Fittings **KQG2 Series**

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

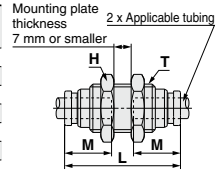
## Dimensions

### Bulkhead Union: KQG2E



| Applicable tubing O.D. (inch) | Model      | T (UNF)    | H (Width across flat) | L    | Mounting hole | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|------------|-----------------------|------|---------------|------|-------------------------------------------|------------|
| ø1/8"                         | KQG2E01-00 | 7/16-20UNF | 14                    | 34.2 | 12.5          | 12   | 3.4                                       | 20.7       |
| ø5/32"                        | KQG2E03-00 | 7/16-20UNF | 14                    | 34.4 | 12.5          | 12.6 | 5.6                                       | 20.5       |
| ø1/4"                         | KQG2E07-00 | 1/2-20UNF  | 17                    | 35.4 | 14            | 13.5 | 13.1                                      | 28         |
| ø5/16"                        | KQG2E09-00 | 5/8-18UNF  | 19                    | 39.6 | 17            | 16.1 | 26.1                                      | 39.5       |
| ø3/8"                         | KQG2E11-00 | 3/4-16UNF  | 22                    | 40.4 | 20.5          | 16.6 | 41.5                                      | 57.3       |
| ø1/2"                         | KQG2E13-00 | 7/8-14UNF  | 26                    | 44.4 | 23.5          | 18.5 | 58.3                                      | 83.2       |

Note 1) Value of FEP tubing.



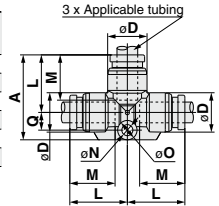
### Union Tee: KQG2T



| Applicable tubing O.D. (inch) | Model      | Note 1) øD | L    | A    | Q   | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|------------|------|------|-----|------|-----|-----|-------------------------------------------|------------|
| ø1/8"                         | KQG2T01-00 | 8.3        | 13.6 | 20.5 | 4.1 | 12   | 3.2 | 5.6 | 3.4                                       | 7.9        |
| ø5/32"                        | KQG2T03-00 | 9.1        | 14.6 | 21.8 | 4.4 | 12.6 | 3.2 | 5.6 | 6.4                                       | 9.5        |
| ø1/4"                         | KQG2T07-00 | 11.7       | 16.7 | 24.7 | 5.2 | 13.5 | 3.2 | 5.6 | 13.4                                      | 14.7       |
| ø5/16"                        | KQG2T09-00 | 13.7       | 20.1 | 31.1 | 7   | 16.1 | 4.2 | 8   | 25.6                                      | 24.4       |
| ø3/8"                         | KQG2T11-00 | 16         | 21.4 | 33.4 | 8   | 16.6 | 4.2 | 8   | 40                                        | 34.7       |
| ø1/2"                         | KQG2T13-00 | 19.6       | 24.9 | 37.9 | 9   | 18.5 | 4.2 | 8   | 57.4                                      | 52.3       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



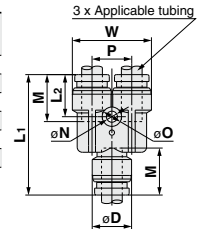
### Union "Y": KQG2U



| Applicable tubing O.D. (inch) | Model      | Note 1) øD | W    | L1   | L2   | P    | M    | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|------------|------|------|------|------|------|-----|-----|-------------------------------------------|------------|
| ø1/8"                         | KQG2U01-00 | 8.3        | 16.4 | 29   | 11   | 8.1  | 12   | 3.2 | 5.6 | 3.4                                       | 9.2        |
| ø5/32"                        | KQG2U03-00 | 9.1        | 18.2 | 30.4 | 11.3 | 9.1  | 12.6 | 3.2 | 5.6 | 4.2                                       | 11.1       |
| ø1/4"                         | KQG2U07-00 | 11.7       | 23.9 | 34.5 | 12.1 | 12.2 | 13.5 | 3.2 | 5.6 | 13.4                                      | 19.6       |
| ø5/16"                        | KQG2U09-00 | 13.7       | 28.3 | 40.1 | 14.1 | 14.6 | 16.1 | 4.2 | 8   | 25.6                                      | 29.7       |
| ø3/8"                         | KQG2U11-00 | 16         | 33.2 | 42.2 | 14   | 17.2 | 16.6 | 4.2 | 8   | 40                                        | 43.1       |
| ø1/2"                         | KQG2U13-00 | 19.6       | 40.2 | 47.3 | 15.8 | 20.6 | 18.5 | 4.2 | 8   | 57.4                                      | 66.4       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



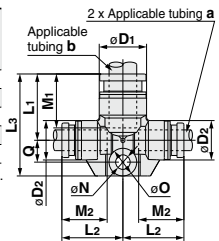
### Different Diameter Tee: KQG2T



| Applicable tubing O.D. (inch) | Model      | Note 1) øD1 | Note 1) øD2 | L1   | L2   | L3   | Q   | M1   | M2   | øN  | øO  | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|------------|-------------|-------------|------|------|------|-----|------|------|-----|-----|-------------------------------------------|------------|
| a ø1/8" b ø5/32"              | KQG2T01-03 | 9.1         | 8.3         | 14.2 | 14.1 | 21.1 | 4.1 | 12.6 | 12   | 3.2 | 5.6 | 3.8                                       | 8.5        |
| ø5/32" ø1/4"                  | KQG2T03-07 | 11.7        | 9.1         | 15.5 | 15.9 | 22.7 | 4.4 | 13.5 | 12.6 | 3.2 | 5.6 | 7.1                                       | 11.7       |
| ø1/4" ø5/16"                  | KQG2T07-09 | 13.7        | 11.7        | 19.3 | 17.6 | 29.6 | 6.3 | 16.1 | 13.5 | 4.2 | 8   | 16.4                                      | 20.2       |
| ø5/16" ø3/8"                  | KQG2T09-11 | 16          | 13.7        | 20.6 | 21   | 31.7 | 7.1 | 16.6 | 16.1 | 4.2 | 8   | 36                                        | 28.9       |
| ø3/8" ø1/2"                   | KQG2T11-13 | 19.6        | 16          | 23.3 | 23   | 35.4 | 8.1 | 18.5 | 16.6 | 4.2 | 8   | 56                                        | 41.8       |

Note 1) øD1, øD2 are maximum diameters.

Note 2) Value of FEP tubing.



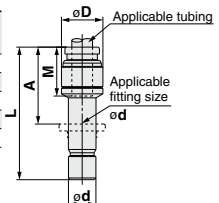
### Plug-in Reducer: KQG2R



| Applicable tubing O.D. (inch) | Applicable fitting size ød | Model      | Note 1) øD | L    | A    | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|----------------------------|------------|------------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | ø5/32"                     | KQG2R01-03 | 9          | 32.9 | 20.3 | 12   | 3.4                                       | 4.7        |
| ø5/32"                        | ø1/4"                      | KQG2R03-07 | 9          | 33.7 | 20.2 | 12.6 | 5.6                                       | 7.1        |
| ø1/4"                         | ø5/16"                     | KQG2R07-09 | 12         | 38.4 | 22.3 | 13.5 | 13.1                                      | 11.9       |
| ø5/16"                        | ø3/8"                      | KQG2R09-11 | 14         | 41.6 | 25   | 16.1 | 26.1                                      | 16.8       |
| ø3/8"                         | ø1/2"                      | KQG2R11-13 | 17         | 39.8 | 21.3 | 16.6 | 41.5                                      | 23.5       |

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.



# KQG2 Series

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

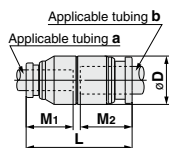
## Dimensions

### Different Diameter Straight: KQG2H



| Applicable tubing O.D. (inch) |        | Model      | øD <sup>Note 1)</sup> | L    | M <sub>1</sub> | M <sub>2</sub> | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|--------|------------|-----------------------|------|----------------|----------------|----------------------------------------------|------------|
| a                             | b      |            |                       |      |                |                |                                              |            |
| ø1/8"                         | ø5/32" | KQG2H01-03 | 9                     | 25.6 | 12             | 12.6           | 3.4                                          | 6.5        |
| ø5/32"                        | ø1/4"  | KQG2H03-07 | 12                    | 27.1 | 12.6           | 13.5           | 5.6                                          | 11.3       |
| ø1/4"                         | ø5/16" | KQG2H07-09 | 14                    | 30.6 | 13.5           | 16.1           | 13.1                                         | 16.1       |
| ø5/16"                        | ø3/8"  | KQG2H09-11 | 16                    | 33.7 | 16.1           | 16.6           | 26.1                                         | 22.8       |
| ø3/8"                         | ø1/2"  | KQG2H11-13 | 20                    | 36.1 | 16.6           | 18.5           | 41.5                                         | 37.1       |

Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

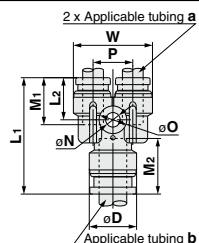


### Different Diameter Union "Y": KQG2U



| Applicable tubing O.D. (inch) |        | Model      | Note 1)<br>øD | L <sub>1</sub> | L <sub>2</sub> | P    | W    | M <sub>1</sub> | M <sub>2</sub> | øN  | øO  | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|--------|------------|---------------|----------------|----------------|------|------|----------------|----------------|-----|-----|----------------------------------------------|------------|
| a                             | b      |            |               |                |                |      |      |                |                |     |     |                                              |            |
| ø1/8"                         | ø5/32" | KQG2U01-03 | 9.1           | 27             | 10.8           | 8.1  | 16.4 | 12             | 12.6           | 3.2 | 5.6 | 3.2                                          | 8.5        |
| ø5/32"                        | ø1/4"  | KQG2U03-07 | 11.7          | 28.8           | 11.4           | 9.1  | 18.2 | 12.6           | 13.5           | 3.2 | 5.6 | 4.2                                          | 11.8       |
| ø1/4"                         | ø5/16" | KQG2U07-09 | 13.7          | 33.8           | 12             | 12.2 | 23.9 | 13.5           | 16.1           | 4.2 | 8   | 13.4                                         | 20         |
| ø5/16"                        | ø3/8"  | KQG2U09-11 | 16            | 38.3           | 13.8           | 14.6 | 28.3 | 16.1           | 16.6           | 4.2 | 8   | 25.6                                         | 31         |
| ø3/8"                         | ø1/2"  | KQG2U11-13 | 19.6          | 40.5           | 13.7           | 17.2 | 33.2 | 16.6           | 18.5           | 4.2 | 8   | 40                                           | 45         |

Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.

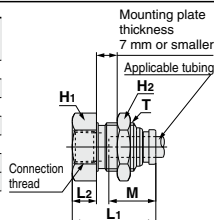


### Bulkhead Connector: KQG2E



| Applicable tubing O.D. (inch) | Connection thread NPT | Model       | T (UNF)    | Width across flat |                | L <sub>1</sub> | L <sub>2</sub> | Mounting hole | M    | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|-----------------------|-------------|------------|-------------------|----------------|----------------|----------------|---------------|------|----------------------------------------------|------------|
|                               |                       |             |            | H <sub>1</sub>    | H <sub>2</sub> |                |                |               |      |                                              |            |
| ø1/8"                         | 1/4                   | KQG2E01-N02 | 7/16-20UNF | 17                | 14             | 32.8           | 15.3           | 12.5          | 12   | 3.4                                          | 30.6       |
| ø5/32"                        | 1/4                   | KQG2E03-N02 | 7/16-20UNF | 17                | 14             | 32.6           | 15.3           | 12.5          | 12.6 | 5.6                                          | 30.1       |
| ø1/4"                         | 1/4                   | KQG2E07-N02 | 1/2-20UNF  | 17                | 17             | 32.7           | 14.8           | 14            | 13.5 | 13.1                                         | 32.6       |
| ø5/16"                        | 3/8                   | KQG2E09-N03 | 5/8-18UNF  | 19                | 19             | 35             | 15.1           | 17            | 16.1 | 26.1                                         | 38.2       |
| ø3/8"                         | 3/8                   | KQG2E11-N03 | 3/4-18UNF  | 21                | 22             | 33.8           | 13.3           | 20.5          | 16.6 | 41.5                                         | 51.7       |
| ø1/2"                         | 3/8                   | KQG2E13-N03 | 7/8-14UNF  | 24                | 26             | 34.6           | 12.3           | 23.5          | 18.5 | 58.3                                         | 73.2       |
|                               | 1/2                   | KQG2E13-N04 |            |                   |                |                |                |               |      |                                              |            |

Note 1) Value of FEP tubing.

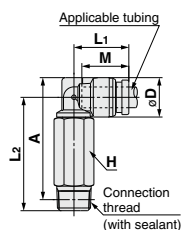


### Extended Male Elbow: KQG2W



| Applicable tubing O.D. (inch) | Connection thread NPT | Model        | H (Width across flat) | Note 1)<br>øD | L <sub>1</sub> | L <sub>2</sub> | A <sup>*</sup> | M    | Note 2)<br>Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|-----------------------|--------------|-----------------------|---------------|----------------|----------------|----------------|------|----------------------------------------------|------------|
|                               |                       |              |                       |               |                |                |                |      |                                              |            |
| ø1/8"                         | 1/8                   | KQG2W01-N01S | 12                    | 8.3           | 13.6           | 31.6           | 32.5           | 12   | 2.8                                          | 21.5       |
|                               | 1/4                   | KQG2W01-N02S | 14                    |               |                | 35.4           | 35.1           |      |                                              | 34.4       |
|                               | 1/8                   | KQG2W03-N01S | 12                    |               |                | 32             | 33.3           |      |                                              | 22.4       |
| ø5/32"                        | 1/4                   | KQG2W03-N02S | 14                    | 9.1           | 14.4           | 35.8           | 35.9           | 12.6 | 4                                            | 35.2       |
|                               | 1/8                   | KQG2W07-N01S | 12                    |               |                | 33.3           | 35.9           |      |                                              | 24.1       |
|                               | 1/4                   | KQG2W07-N02S | 14                    |               |                | 37.1           | 38.5           |      |                                              | 37         |
| ø1/4"                         | 3/8                   | KQG2W07-N03S | 19                    | 11.7          | 15.9           | 38.9           | 40             | 13.5 | 10.9                                         | 70.9       |
|                               | 1/8                   | KQG2W09-N01S | 12                    |               |                | 34.7           | 38.3           |      |                                              | 26.9       |
|                               | 1/4                   | KQG2W09-N02S | 14                    |               |                | 40.2           | 42.6           |      |                                              | 38.7       |
| ø5/16"                        | 3/8                   | KQG2W09-N03S | 19                    | 13.7          | 19.1           | 42             | 44.1           | 16.1 | 20.5                                         | 74.7       |
|                               | 1/4                   | KQG2W11-N02S | 14                    |               |                | 47.2           | 50.8           |      |                                              | 41.8       |
|                               | 3/8                   | KQG2W11-N03S | 19                    |               |                | 45.4           | 48.7           |      |                                              | 75.2       |
| ø3/8"                         | 1/2                   | KQG2W11-N04S | 22                    | 16            | 21             | 49.2           | 50.8           | 16.6 | 33.5                                         | 116.5      |
|                               | 1/4                   | KQG2W13-N02S | 14                    |               |                | 22.7           | 49             |      |                                              | 47.9       |
|                               | 3/8                   | KQG2W13-N03S | 19                    |               |                | 50.7           | 55.8           |      |                                              | 75.3       |
| ø1/2"                         | 1/2                   | KQG2W13-N04S | 22                    | 19.6          | 23.7           | 54.5           | 57.9           | 18.5 | 47.7                                         | 118.3      |

\* Reference dimensions after installation of NPT thread  
Note 1) øD is maximum diameter.  
Note 2) Value of FEP tubing.



## Dimensions

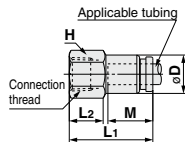
### Female Connector: KQG2F



| Applicable tubing O.D. (inch) | Connection thread NPT | Model       | H (Width across flat) | Note 1) øD | L1   | L2   | M    | Note 2) Effective area (mm <sup>2</sup> ) | Weight (g) |
|-------------------------------|-----------------------|-------------|-----------------------|------------|------|------|------|-------------------------------------------|------------|
| ø1/8"                         | 1/8                   | KQG2F01-N01 | 12                    | 8          | 24.1 | 10.4 | 12   | 3.4                                       | 9.4        |
|                               | 1/4                   | KQG2F01-N02 | 17                    |            | 29.1 | 13.7 |      |                                           | 22.5       |
| ø5/32"                        | 1/8                   | KQG2F03-N01 | 12                    | 8.7        | 24.6 | 10.5 | 12.6 | 5.6                                       | 9.9        |
|                               | 1/4                   | KQG2F03-N02 | 17                    |            | 29.6 | 13.8 |      |                                           | 23         |
| ø1/4"                         | 1/8                   | KQG2F07-N01 | 12                    | 11.2       | 25   | 10.7 | 13.5 | 13.1                                      | 11.1       |
|                               | 1/4                   | KQG2F07-N02 | 17                    |            | 30   | 14.1 |      |                                           | 24.5       |
| ø5/16"                        | 3/8                   | KQG2F07-N03 | 19                    | 13.4       | 31.2 | 14.6 | 16.1 | 26.1                                      | 25.5       |
|                               | 1/8                   | KQG2F09-N01 | 14                    |            | 27.2 | 10.3 |      |                                           | 17.3       |
| ø3/8"                         | 1/4                   | KQG2F09-N02 | 17                    | 16         | 32.2 | 14.3 | 16.6 |                                           | 26.9       |
|                               | 3/8                   | KQG2F09-N03 | 19                    |            | 33.4 | 14.8 |      |                                           | 28.1       |
| ø1/2"                         | 1/4                   | KQG2F11-N02 | 17                    | 19.3       | 32.1 | 14.4 | 18.5 | 58.3                                      | 29.7       |
|                               | 3/8                   | KQG2F11-N03 | 19                    |            | 33.3 | 14.9 |      | 41.5                                      | 30.9       |
| ø1/2"                         | 1/2                   | KQG2F11-N04 | 24                    | 19.3       | 38.6 | 18.6 | 18.5 |                                           | 49.1       |
|                               | 3/8                   | KQG2F13-N03 | 21                    |            | 34.6 | 14.7 |      |                                           | 43.3       |
| ø1/2"                         | 1/2                   | KQG2F13-N04 | 24                    |            | 39.9 | 18.8 |      |                                           | 53.5       |

Note 1) øD is maximum diameter.

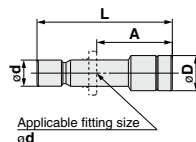
Note 2) Value of FEP tubing.



### Plug: KQG2P



| Applicable fitting size ød | Model    | øD | L    | A    | Weight (g) |
|----------------------------|----------|----|------|------|------------|
| ø1/8"                      | KQG2P-01 | 5  | 28.9 | 16.9 | 2.7        |
| ø5/32"                     | KQG2P-03 | 6  | 29.6 | 17   | 4.1        |
| ø1/4"                      | KQG2P-07 | 8  | 30.3 | 16.8 | 8.9        |
| ø5/16"                     | KQG2P-09 | 10 | 33.7 | 17.6 | 15.5       |
| ø3/8"                      | KQG2P-11 | 11 | 34.1 | 17.5 | 21         |
| ø1/2"                      | KQG2P-13 | 14 | 36.4 | 17.9 | 38.5       |



KQ2

KQB2

KS

KX

KM

KF

M

H/DL

L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

**KQG2 Series**

# Applicable Fluid List

**How to Read the Table**

◎: Completely unaffected or largely unaffected.  
 ○: May be slightly affected, but, dependent upon condition, can sufficiently withstand.  
 △: Advisable to use as little as possible.  
 ×: Not applicable, as substantially affected.  
 —: No data is available.

**Compatibility Checklist for Used Materials and Fluids**

| Chemical                        | Body                | Seal        |
|---------------------------------|---------------------|-------------|
|                                 | Stainless steel 316 | Special FKM |
| Acrylonitrile                   | ◎                   | ×           |
| Acetamide                       | ○                   | ○           |
| Acetaldehyde                    | ◎                   | ×           |
| Acetone                         | ◎                   | ×           |
| Aniline                         | ○                   | ◎           |
| Amylene                         | ◎                   | —           |
| Sulphurous acid gas (Humid gas) | ◎                   | —           |
| Sodium bisulfite [50%]          | ◎                   | —           |
| Allyl alcohol                   | ◎                   | —           |
| Benzoic acid                    | ◎                   | —           |
| Ammonia (Compressed gas)        | ◎                   | ×           |
| Isopropyl alcohol               | ○                   | ◎           |
| Isophorone                      | ×                   | —           |
| Ethyl alcohol                   | ◎                   | ○           |
| Ethyl ether                     | ○                   | ×           |
| Ethylene                        | ◎                   | —           |
| Ethylene glycol                 | ○                   | ◎           |
| Ethylene diamine                | ◎                   | —           |
| Ethylene dichloride             | ◎                   | —           |
| Epichlorohydrine                | ◎                   | ×           |
| Methyl tertiary butyl ether     | —                   | ×           |
| Allyl chloride                  | ×                   | —           |
| Ammonium chloride               | ◎                   | —           |
| Calcium chloride                | ◎                   | —           |
| Iron(II) chloride [5%]          | ×                   | —           |
| Sodium chloride                 | ○                   | —           |
| Magnesium chloride              | ◎                   | —           |
| Hydrochloric acid [5%]          | ×                   | —           |
| Chlorine gas (Humid gas)        | ×                   | —           |
| Carbitol                        | ×                   | —           |
| Formic acid [50%]               | ○                   | ×           |
| o-Xylene                        | △                   | △           |
| p-Xylene                        | △                   | △           |
| Citric acid                     | ◎                   | —           |
| Cumene                          | ×                   | —           |
| Glycerin                        | ◎                   | ◎           |
| Cresol                          | ◎                   | △           |

| Chemical                             | Body                | Seal        |
|--------------------------------------|---------------------|-------------|
|                                      | Stainless steel 316 | Special FKM |
| Chromic acid [10%]                   | ◎                   | —           |
| Chlorosulfonic acid                  | ○                   | ×           |
| Chlorofluorocarbon (CFC) 11          | —                   | ×           |
| Chlorofluorocarbon (CFC) 113         | —                   | ×           |
| Chlorofluorocarbon (CFC) 12          | ○                   | ×           |
| Chlorofluorocarbon (CFC) 13B1        | —                   | ×           |
| Chlorofluorocarbon (CFC) 14          | —                   | ◎           |
| Chlorofluorocarbon (CFC) 22          | ○                   | ×           |
| Chlorobenzene                        | ×                   | ○           |
| Chloroform (Trichloromethane)        | ○                   | ○           |
| Acetic acid                          | ○                   | ×           |
| Amyl acetate                         | ◎                   | ×           |
| Isopropyl acetate [20%]              | ◎                   | ×           |
| Ethyl acetate                        | ×                   | ×           |
| Butyl acetate                        | ×                   | ×           |
| Methyl acetate                       | ◎                   | ×           |
| Calcium hypochlorite                 | ◎                   | —           |
| Sodium hypochlorite [5%]             | ◎                   | ◎           |
| Potassium cyanide [50%]              | ◎                   | —           |
| Copper cyanide                       | ◎                   | —           |
| Diisobutyl ketone                    | ◎                   | —           |
| Diisobutylene                        | —                   | ◎           |
| Diethanolamine                       | ◎                   | —           |
| Diethylamine                         | ×                   | ×           |
| Diethylene glycol                    | ◎                   | —           |
| Carbon tetrachloride                 | ◎                   | ◎           |
| Cyclohexanol                         | ×                   | —           |
| Cyclohexanone                        | ×                   | ×           |
| Cyclohexane                          | ×                   | ○           |
| Dichloroethylene                     | —                   | △           |
| Dichlorobenzene                      | —                   | △           |
| Dichloromethane (Methylene chloride) | △                   | △           |
| Ethylene bromide                     | ×                   | —           |
| Potassium bromide [30%]              | ◎                   | —           |
| Potassium dichromate [25%]           | ◎                   | —           |
| Oxalic acid                          | ◎                   | —           |
| Bromine gas                          | ×                   | —           |

| Chemical                                       | Body                | Seal        |
|------------------------------------------------|---------------------|-------------|
|                                                | Stainless steel 316 | Special FKM |
| Tartaric acid                                  | ⊙                   | —           |
| Nitric acid [65%]                              | ⊙                   | ⊙           |
| Ammonium nitrate                               | ⊙                   | —           |
| Ammonium hydroxide                             | —                   | ○           |
| Calcium hydroxide                              | ⊙                   | —           |
| Sodium hydroxide [50%]                         | ⊙                   | ○           |
| Barium hydroxide                               | ⊙                   | —           |
| Solvent naphtha                                | ⊙                   | —           |
| Carbonic acid (Humid gas and aqueous solution) | ⊙                   | —           |
| Tetrachloroethylene                            | ×                   | ⊙           |
| Tetrahydrofuran                                | —                   | ×           |
| Dodecylbenzene                                 | ⊙                   | —           |
| Trichloroethane                                | △                   | —           |
| Trichloroethylene                              | ⊙                   | ○           |
| Trichloroacetic acid                           | —                   | —           |
| Toluene                                        | ⊙                   | ⊙           |
| Naphtha                                        | ○                   | ○           |
| Naphthenic acid                                | ⊙                   | —           |
| Lactic acid                                    | ⊙                   | —           |
| Carbon disulfide                               | ○                   | ⊙           |
| Picric acid                                    | ⊙                   | —           |
| Pyridine                                       | ×                   | ×           |
| Phenol                                         | ×                   | ○           |
| Butyl phthalate                                | ×                   | —           |
| Butyl alcohol                                  | △                   | —           |
| Hydrofluoric acid [50%]                        | ⊙                   | —           |
| Furfural                                       | ×                   | ×           |
| n-Propyl alcohol                               | ⊙                   | —           |
| Propylene glycol                               | ⊙                   | —           |
| Bromochloroethane                              | —                   | ×           |
| n-Hexane                                       | ○                   | ⊙           |
| n-Hexyl alcohol                                | ⊙                   | —           |
| n-Heptane                                      | ⊙                   | —           |
| Benzene                                        | ×                   | ×           |
| n-Pentane                                      | ×                   | —           |
| Boric acid                                     | ⊙                   | —           |
| Gallic acid                                    | ⊙                   | —           |

| Chemical                                          | Body                | Seal        |
|---------------------------------------------------|---------------------|-------------|
|                                                   | Stainless steel 316 | Special FKM |
| Formic aldehyde                                   | ⊙                   | ×           |
| Methyl methacrylate                               | ×                   | ×           |
| Methyl alcohol                                    | ⊙                   | ○           |
| Methyl isobutyl ketone                            | ×                   | ×           |
| Methyl ethyl ketone                               | ×                   | ×           |
| Ethyleneglycol monomethyl ether                   | ×                   | —           |
| Monoethanolamine                                  | ⊙                   | —           |
| Morpholine                                        | ⊙                   | —           |
| Butyric acid                                      | ⊙                   | —           |
| Hydrogen sulfide (Humid gas and aqueous solution) | ⊙                   | ×           |
| Sulphuric acid [10%]                              | ⊙                   | ⊙           |
| Ammonium sulfate                                  | ⊙                   | ×           |
| Sodium bisulfate [10%]                            | ⊙                   | —           |
| Iron(II) sulfate                                  | ○                   | —           |
| Sodium sulfate                                    | ⊙                   | —           |
| Phosphoric acid [85%]                             | ⊙                   | —           |

Note 1) [ ] denotes the concentration. Aqueous solutions without condensation notes are in a saturated state.

Note 2) The above data is based on a room temperature of 20°C. Note that you may obtain different figures, depending on temperature conditions.

Note 3) The above data shows compatibility guidelines based upon component parts. Therefore, it is no guarantee of product performance. In addition, using fluids other than those specified in the catalog are not covered by the product's warranty.

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**KS  
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**LQ**
**MQR**
**T**
**IDK**



## KQG2 Series

# Specific Product Precautions

Be sure to read this before handling the products.

Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

### Selection

#### ⚠ Caution

1. The surge pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubing or the tubing may result in being fallen out.
2. If using a fluorescesin tubing in an environment where the fluid temperature changes drastically, it is recommended to use an inner sleeve. Otherwise, air leakage may occur or the tube may release from fitting due to deformation of the tubing.
3. The particle generation of the KQG2 series depends on the operating conditions and operating environment. If you are concerned about the effects on machinery and equipment, check the particle generation with your machine before use.

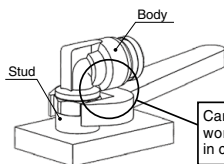
The components of the KQG2 series may slide due to changes in the internal pressure, which may generate particles. When using male elbow, male branch tee, and extended male elbow fittings, particles may be generated by rotation for positioning after connecting.

### Mounting

#### ⚠ Caution

1. When performing the piping work, turn the tightening tool in the horizontal direction to the hex. across flats of the stud so that any moment is not applied to the body.

If the tool is in contact with the body, this may cause the stud to come off.



2. The union elbow, union tee, union "Y", different diameter tee and different diameter union "Y" should be fixed through the mounting hole.

Otherwise, air leakage or breaking can occur due to a pulling force or moment load created by the product's weight.

3. The elbow union, branch tee, and long elbow union can be turned for positioning after connecting, but they cannot be used while turning them.

Doing so may cause worn out metallic particles to enter the fluid or the fitting to break.

4. If the connection tube oscillates or turns, do not use this product.

Doing so may cause the fitting to break. In particular, for the product with the stud, this may cause the stud to come off.

### Operating Environment

#### ⚠ Warning

1. Avoid installing and using fittings inside a food zone.

##### Not installable

Food zone ..... An environment where food which will be sold as merchandise, directly touches the fitting components.

##### Installable

Splash zone ..... An environment where food which will not be sold as merchandise, directly touches the fitting components.

Non-food zone ..... An environment where there is no contact with food.

### Installation and Removal of Tubing

#### ⚠ Caution

1. Installation of tubing

1) Grease is not used for the KQG2 series, therefore a greater insertion force is required when the tube is installed. In particular, polyurethane tubing may fold when inserted due to its softness. Hold the end of the tubing, and insert it all the way in slowly and securely. Refer to dimension "M" in the dimension drawings for guidance on the insertion depth of tube.

2. Removal of tubing

1) For tubing used at a high temperature or for an extended period of time, there is a possibility that it will not fit into a One-touch fitting again due to an enlarged O.D. Dispose of the tubing and replace it with a new one.

### Proper Tightening Torque of Fittings

#### ⚠ Caution

1. Tighten fittings with sealant using the proper tightening torques in the table below. As a rule, they should be tightened 2 to 3 turns with a tool after first tightening by hand.

If tightened using a torque exceeding the proper torque level, this may cause the fitting to break.

In particular, for the product with the stud, the stud may come off.

| Connection thread size | Proper tightening torque N·m |
|------------------------|------------------------------|
| NPT, R1/8              | 3 to 5                       |
| NPT, R1/4              | 8 to 12                      |
| NPT, R3/8              | 15 to 20                     |
| NPT, R1/2              | 20 to 25                     |

#### Stainless steel

Metal exists in nature as ore (like oxide or sulfide). This means that oxide or sulfide is more stable than pure metal. Accordingly, metallic material chemically oxidizes (metallic constituent becomes ion and melts out). It corrodes in the natural environment. Even though corrosion of metal easily occurs in an environment where oxidizing tendency is stronger, some kinds of metal have a characteristic for which corrosion never happens if the level of oxidizing goes higher than a specific point. In such a case, it is called "metal in passive state".

Stainless steel has corrosion resistance because of a thin coat of passive state on its surface. However, there does not exist stainless steel with absolute corrosion resistance; therefore, many types of stainless steel have been developed for improved corrosion resistance performance.