

# Inch-size One-touch Fittings

## Series KQ2

Applicable Tubing: Inch Size  
Connection Thread: UNF, NPT

### How to Order

**KQ 2 H 05 — 34 S**

One-touch fittings

Product's color

| Symbol | Body  | Release button |
|--------|-------|----------------|
| 2      | White | Orange         |
| Nil    | Black | Red            |

Applicable tubing O.D.

|    |      |
|----|------|
| 01 | 1/8  |
| 03 | 5/32 |
| 05 | 3/16 |
| 07 | 1/4  |
| 09 | 5/16 |
| 11 | 3/8  |
| 13 | 1/2  |

Port size/Applicable tubing O.D.

| Thread connection | Tubing (Rod) connection | Port size/Applicable tubing O.D. |
|-------------------|-------------------------|----------------------------------|
| 32                |                         | 10-32 UNF                        |
| 33                |                         | NPT 1/16                         |
| 34                |                         | NPT 1/8                          |
| 35                |                         | NPT 1/4                          |
| 36                |                         | NPT 3/8                          |
| 37                |                         | NPT 1/2                          |
| 00                |                         | Same dia. tubing                 |
| 99                |                         | Same dia. rod                    |
| 01                |                         | 1/8 tubing                       |
| 03                |                         | 5/32 tubing                      |
| 05                |                         | 3/16 tubing                      |
| 07                |                         | 1/4 tubing                       |
| 09                |                         | 5/16 tubing                      |
| 11                |                         | 3/8 tubing                       |
| 13                |                         | 1/2 tubing                       |

With thread seal

| Nil | None             |
|-----|------------------|
| S   | With thread seal |

Note) Port size with seal: Only  
NPT 1/16  
NPT 1/8  
NPT 1/4  
NPT 3/8  
NPT 1/2

K□  
M□  
H□  
D□  
MS  
T□  
VMG

#### Model

|    |                                            |
|----|--------------------------------------------|
| H  | Male connector                             |
|    | Straight                                   |
|    | Different dia. straight *                  |
| S  | Hexagon socket head male connector *       |
| F  | Female union *                             |
| L  | Male elbow                                 |
|    | Elbow                                      |
|    | Plug-in elbow                              |
|    | Reducer elbow                              |
| K  | 45° male elbow *                           |
| V  | Universal male elbow *                     |
| VS | Hexagon socket head universal male elbow * |
| VF | Universal female elbow *                   |
| LF | Female elbow *                             |
| VD | Double universal male elbow *              |
| VT | Tripple universal male elbow *             |
| Z  | Branch universal male elbow *              |
| ZD | Double branch universal male elbow *       |
| ZT | Triple branch universal male elbow *       |
| W  | Extended male elbow                        |
|    | Male branch tee                            |
| T  | Union tee                                  |
|    | Different dia. tee *                       |
| TW | Cross union                                |
| Y  | Male run tee *                             |
|    | Branch "Y"                                 |
| U  | Union "Y"                                  |
|    | Plug-in "Y"                                |
|    | Different dia. union "Y" *                 |
| X  | Different dia. plug-in "Y" *               |
| R  | Plug-in reducer                            |
| E  | Bulkhead union                             |
|    | Bulkhead connector                         |
| LE | Bulkhead union elbow *                     |



\* Available only for KQ2 (White color body).

#### Accessory

| Symbol     | Name           |
|------------|----------------|
| KQ2N       | Nipple         |
|            | Reducer nipple |
| KQ2C       | Tube cap       |
| KQ2P (KQP) | Plug (Orange)  |

Use the below part number to order the gasket for sealing 10-32 UNF thread.

Gasket for 10-32 UNF: M-10/32G

# Series KQ2

Series KQ2: White body  
Series KQ: Black body

**Guide**

**Collet**

**Chuck**

Suitable for use with nylon, soft nylon and urethane.  
Large retaining force.

Has large retaining force while holding  
force is increased by the collet.

**Seal**

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1.0 MPa

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Connection thread**

UNF, NPT

**Release button**

KQ2: Orange

KQ : Red

Light force for removal

When the fitting is removed from the tube, the chuck and collet are released, thus preventing them from biting into the tube excessively.

**Tube**

Inch size

1/8", 5/32", 3/16", 1/4", 5/16", 3/8", 1/2"

**Body**

**O-ring**

**Stud**

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

PAT.



## Product's Color

| Series     | Body  | Release button |
|------------|-------|----------------|
| Series KQ2 | White | Orange         |
| Series KQ  | Black | Red            |

## Applicable Tubing

|                    |                                             |
|--------------------|---------------------------------------------|
| Tubing material    | Nylon, Soft nylon, Polyurethane             |
| Tubing O.D. (inch) | ø1/8, ø5/32, ø3/16, ø1/4, ø5/16, ø3/8, ø1/2 |

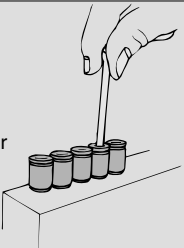
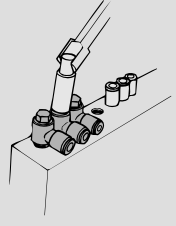
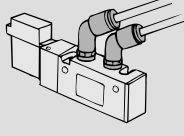
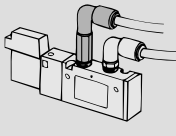
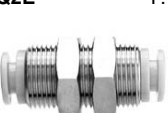
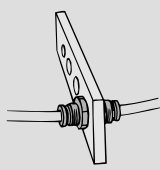
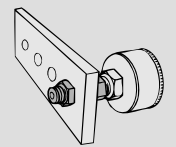
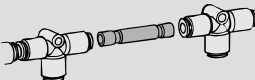
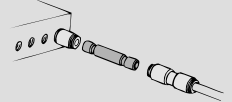
## Specifications

|                               |                                            |                                                                             |
|-------------------------------|--------------------------------------------|-----------------------------------------------------------------------------|
| Fluid                         | Air/Water <sup>Note)</sup>                 |                                                                             |
| Maximum operating pressure    | 1.0 MPa                                    |                                                                             |
| Operating vacuum pressure     | -100 kPa                                   |                                                                             |
| Proof pressure                | 3.0 MPa                                    |                                                                             |
| Ambient and fluid temperature | -5 to 60°C, Water: 0 to 40°C (No freezing) |                                                                             |
| Thread                        | Mounting section                           | ANSI/ASME B1.20.1-1983 (NPT thread)<br>JIS B 0212 2A, Class 2B (UNF thread) |
|                               | Nut section                                | JIS B 0212 2A, Class 2B (UNF thread)                                        |
| Seal (Thread portion)         | With thread seal                           |                                                                             |

 Note) Applicable for general industrial water. Please consult with SMC if using for other kinds of fluid.  
Also, the surge pressure must be under the maximum operating pressure.

## Principal Parts Material

|                |                                   |
|----------------|-----------------------------------|
| Body           | C3604BD, PBT, PP                  |
| Stud           | C3604BD (Thread portion)          |
| Chuck          | Stainless steel 304               |
| Guide          | Stainless steel 304, C3604BD, POM |
| Collet         | POM                               |
| Release button | POM                               |
| Seal, O-ring   | NBR                               |
| Gasket         | Stainless steel 304, NBR          |

| Model                                           |       |                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Hex. socket head male connector</b>          |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2S</b>                                     | P. 13 |  <p>Internal hex. allows thread connection by using an allen wrench for confined spaces.</p>                                                                                         |
| <b>Universal male elbow</b>                     |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2V</b>                                     | P. 15 |  <p>Universal male elbow allows thread connection by using a socket wrench for confined spaces.</p>                                                                                |
| <b>45° male elbow</b>                           |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2K</b>                                     | P. 15 |  <p>Use to pipe in 45° angle direction from female thread. Model in-between of male connector and male elbow.</p>                                                                    |
| <b>Extended male elbow</b>                      |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2W</b>                                     | P. 19 |  <p>Basically, it is used together with male elbow. Different point is that it is used for fittings to avoid from interfering with each other by making the piping two-level.</p>  |
| <b>Bulkhead union</b>                           |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2E</b>                                     | P. 22 |  <p>Use to connect tubes through a panel.</p>                                                                                                                                        |
| <b>Bulkhead connector</b>                       |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2E</b>                                     | P. 23 |  <p>Use to connect male thread and tube through a panel.</p>                                                                                                                       |
| <b>Nipple</b>                                   |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2N</b>                                     | P. 23 |  <p>Use to connect One-touch fittings.</p>                                                                                                                                        |
| <b>Reducer nipple</b>                           |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2N</b>                                     | P. 23 |  <p>Use to connect One-touch fittings that are different tubing O.Ds.</p>                                                                                                       |
| <b>Male connector</b>                           |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2H</b>                                     | P. 13 |  <p>Use to pipe in the same direction from female thread. Most general style.</p>                                                                                                                                                                                   |
| <b>Hexagon socket head universal male elbow</b> |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2VS</b>                                    | P. 15 |  <p>Hex. on the top allows thread connection by using an allen wrench for confined spaces.</p>                                                                                                                                                                      |
| <b>Branch universal male elbow</b>              |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2Z</b>                                     | P. 17 |  <p>Hexagonal head allows thread connection by using a box wrench. Use for branch connection.</p>                                                                                                                                                                 |
| <b>Female connector</b>                         |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2F</b>                                     | P. 13 |  <p>Use to pipe from male thread such as pressure gauge.</p>                                                                                                                                                                                                        |
| <b>Universal female elbow</b>                   |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2VF</b>                                    | P. 16 |  <p>Use to branch line in the same direction or at right angles from male or female thread. Multiplex connection possible.</p>                                                                                                                                      |
| <b>Double branch universal male elbow</b>       |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2ZD</b>                                    | P. 17 |  <p>Use to four-branch line at right angles from female thread. Two individual parts rotate 360°.</p>                                                                                                                                                             |
| <b>Straight union</b>                           |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2H</b>                                     | P. 14 |  <p>Use to connect tubes in the same direction.</p>                                                                                                                                                                                                                 |
| <b>Female elbow</b>                             |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2LF</b>                                    | P. 16 |  <p>Use to pipe at right angles to male thread.</p>                                                                                                                                                                                                                 |
| <b>Triple branch universal male elbow</b>       |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2ZT</b>                                    | P. 18 |  <p>Use to six-branch line at right angles from female thread. Three individual parts rotate 360°.</p>                                                                                                                                                            |
| <b>Different diameter straight</b>              |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2H</b>                                     | P. 14 |  <p>Use to connect different sized tubes.</p>                                                                                                                                                                                                                       |
| <b>Double universal male elbow</b>              |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2VD</b>                                    | P. 16 |  <p>Use to branch line at right angles to female thread. Two individual parts rotate 360°.</p>                                                                                                                                                                      |
| <b>Union elbow</b>                              |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2L</b>                                     | P. 18 |  <p>Use to connect tubes at right angles.</p>                                                                                                                                                                                                                     |
| <b>Male elbow</b>                               |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2L</b>                                     | P. 14 |  <p>Use to pipe at right angles to female thread. Most general style.</p>                                                                                                                                                                                           |
| <b>Triple universal male elbow</b>              |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2VT</b>                                    | P. 17 |  <p>Use to three-branch line at right angles from female thread. Three individual parts rotate 360°.</p>                                                                                                                                                            |
| <b>Plug-in elbow</b>                            |       |                                                                                                                                                                                                                                                                                                                                                        |
| <b>KQ2L</b>                                     | P. 18 |  <p>Use to change by 90° in a tube fetching direction from One-touch fittings and to size down.</p>                                                                                                                                                               |

K□  
M□  
H□  
D□  
MS  
T□  
VMG

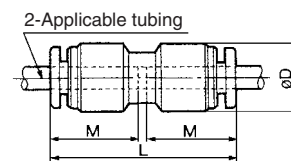
# Series KQ2

## Straight Union: KQ2H



| Applicable tubing O.D. (inch) | Model     | Note) øD | L    | M    | Min. port size | Weight (g) |
|-------------------------------|-----------|----------|------|------|----------------|------------|
| 1/8                           | KQ2H01-00 | 9.6      | 31.5 | 15.5 | 2.5            | 3          |
| 5/32                          | KQ2H03-00 | 10.4     | 32.5 | 16   | 3              | 3          |
| 3/16                          | KQ2H05-00 | 11.4     | 34   | 16.5 | 3.5            | 4          |
| 1/4                           | KQ2H07-00 | 13.2     | 34.5 | 17   | 4.6            | 4          |
| 5/16                          | KQ2H09-00 | 15.2     | 38.5 | 18.5 | 6              | 6          |
| 3/8                           | KQ2H11-00 | 17.9     | 42.5 | 21   | 7              | 11         |
| 1/2                           | KQ2H13-00 | 21.7     | 44.5 | 22   | 9.6            | 16         |

Note) øD: Max. diameter

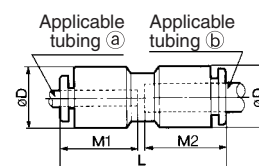


## Different Diameter Straight: KQ2H



| Applicable tubing O.D. (inch) |      | Model     | Note) øD | L    | M1   | M2   | Min. port size | Weight (g) |
|-------------------------------|------|-----------|----------|------|------|------|----------------|------------|
| (a)                           | (b)  |           |          |      |      |      |                |            |
| 1/8                           | 5/32 | KQ2H01-03 | 10.4     | 32.5 | 15.5 | 16   | 2.5            | 3          |
|                               | 1/4  | KQ2H01-07 | 13.2     | 34.5 | 17   | 17   | 2.5            | 5          |
| 5/32                          | 3/16 | KQ2H03-05 | 11.4     | 34   | 16   | 16.5 | 3              | 4          |
|                               | 1/4  | KQ2H03-07 | 13.2     | 34.5 | 17   | 17   | 3              | 4          |
| 3/16                          | 1/4  | KQ2H05-07 | 13.2     | 34.5 | 16.5 | 17   | 3.5            | 5          |
| 1/4                           | 5/16 | KQ2H07-09 | 15.2     | 38.5 | 17   | 18.5 | 4.6            | 6          |
|                               | 3/8  | KQ2H07-11 | 17.9     | 42   | 21   | 21   | 4.6            | 11         |
| 5/16                          | 3/8  | KQ2H09-11 | 17.9     | 42   | 18.5 | 21   | 6              | 11         |
|                               | 1/2  | KQ2H09-13 | 21.7     | 44   | 22   | 22   | 6              | 16         |
| 3/8                           | 1/2  | KQ2H11-13 | 21.7     | 44   | 21   | 22   | 7              | 17         |

Note) øD: Max. diameter



## Male Elbow: KQ2L

01-32  
For KQ2L03-32  
07-32



<For KQ2L05-32>



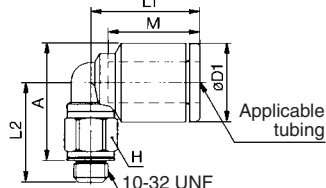
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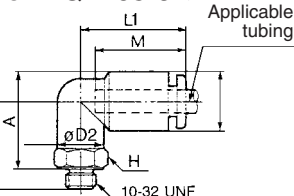
| Applicable tubing O.D. (inch) | Connection thread UNF NPT | Model      | H (Width across flats) | Note) øD1 | øD2 | L1   | L2   | A      | M    | Min. port size | Weight (g) |
|-------------------------------|---------------------------|------------|------------------------|-----------|-----|------|------|--------|------|----------------|------------|
| 1/8                           | 10-32 UNF                 | KQ2L01-32  | 7                      | 8.4       | —   | 15.3 | 13.2 | 14     | 12.7 | 2.3            | 2.5        |
|                               | 1/16                      | KQ2L01-33S | 11.11                  | 9.6       | 10  | 17.5 | 21.5 | 22.5 * | 15.5 | 2.5            | 8          |
|                               | 1/8                       | KQ2L01-34S | 14.29                  | —         | —   | —    | 25.5 | 24.5 * | —    | —              | 18         |
|                               | 1/4                       | KQ2L01-35S | 14.29                  | —         | —   | —    | 26   | 25 *   | —    | —              | 18         |
| 5/32                          | 10-32 UNF                 | KQ2L03-32  | 7                      | 9.3       | —   | 15.6 | 13.7 | 15.4   | 12.7 | 2.3            | 2.7        |
|                               | 1/16                      | KQ2L03-33S | 11.11                  | 10.4      | 10  | 18   | 22   | 23 *   | 16   | 3              | 8          |
|                               | 1/8                       | KQ2L03-34S | 14.29                  | —         | —   | —    | 26   | 25 *   | —    | —              | 9          |
|                               | 1/4                       | KQ2L03-35S | 14.29                  | —         | —   | —    | 26   | 25 *   | —    | —              | 18         |
| 3/16                          | 10-32 UNF                 | KQ2L05-32  | 11.11                  | 11.4      | 10  | 19.5 | 20   | 22     | 16.5 | 2.3            | 5          |
|                               | 1/8                       | KQ2L05-34S | 14.29                  | —         | —   | —    | 22.5 | 24 *   | —    | 3.5            | 10         |
|                               | 1/4                       | KQ2L05-35S | 14.29                  | —         | —   | —    | 26.5 | 26 *   | —    | —              | 19         |
|                               | 10-32 UNF                 | KQ2L07-32  | 7                      | 12        | —   | 16.1 | 15.1 | 18.1   | 13.6 | 2.3            | 3.2        |
| 1/4                           | 1/8                       | KQ2L07-34S | 11.11                  | 13.2      | 10  | 20.5 | 23.5 | 26 *   | 17   | 4.6            | 10         |
|                               | 1/4                       | KQ2L07-35S | 14.29                  | —         | —   | —    | 27.5 | 28 *   | —    | —              | 20         |
|                               | 3/8                       | KQ2L07-36S | 17.46                  | —         | —   | —    | 29.5 | 30 *   | —    | —              | 32         |
|                               | 1/8                       | KQ2L09-34S | 12.7                   | —         | —   | —    | 24.5 | 28 *   | —    | —              | 12         |
| 5/16                          | 1/4                       | KQ2L09-35S | 14.29                  | 15.2      | 12  | 23.5 | 28.5 | 30 *   | 18.5 | 6              | 20         |
|                               | 3/8                       | KQ2L09-36S | 17.46                  | —         | —   | —    | 30.5 | 31.5 * | —    | —              | 28         |
|                               | 1/8                       | KQ2L11-34S | 11.11                  | —         | —   | —    | 26.5 | 31.5 * | —    | 6              | 16         |
|                               | 1/4                       | KQ2L11-35S | 17.46                  | 17.9      | 17  | 25.5 | 29.5 | 32.5 * | —    | 7              | 23         |
| 3/8                           | 3/8                       | KQ2L11-36S | 22.23                  | —         | —   | —    | 31.5 | 34 *   | —    | —              | 33         |
|                               | 1/2                       | KQ2L11-37S | 22.23                  | —         | —   | —    | 35.5 | 36.5 * | —    | —              | 59         |
|                               | 1/4                       | KQ2L13-35S | 17.46                  | 21.7      | 17  | 28   | 31.5 | 36.5 * | —    | 9              | 28         |
|                               | 3/8                       | KQ2L13-36S | 22.23                  | —         | —   | —    | 33.5 | 38.5 * | —    | 9.6            | 36         |
| 1/2                           | 1/2                       | KQ2L13-37S | 22.23                  | —         | —   | —    | 37.5 | 40 *   | —    | —              | 62         |

\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter

01-32  
For KQ2L03-32  
07-32



<For KQ2L05-32>



<NPT>

