One-touch Fittings
Series KQ2
Applicable Tubing: Metric Size
Connection Thread: M, R, Rc

How to Order

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Body</th>
<th>Release button</th>
<th>One-touch fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ2N</td>
<td>Nipple</td>
<td>White</td>
<td>Light gray</td>
<td></td>
</tr>
<tr>
<td>KQ2C</td>
<td>Tube cap</td>
<td>Black</td>
<td>Blue</td>
<td></td>
</tr>
<tr>
<td>KQ2P</td>
<td>Color cap</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KQP</td>
<td>Plug (White)</td>
<td></td>
<td></td>
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</tr>
<tr>
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</table>

Symbol Name

- KQ2N: Nipple
- KQ2C: Tube cap
- KQ2P: Color cap
- KQP: Plug (White)

Use the below part number to order the gasket for M5 and M6 threads:
Gasket for M5 thread: M-5G2
Gasket for M6 thread: M-6G

How to Order

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Body</th>
<th>Release button</th>
<th>One-touch fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ2H</td>
<td>White</td>
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</tr>
<tr>
<td>06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Product's color

- White
- Black
- Blue

Applicable tubing O.D.

<table>
<thead>
<tr>
<th>Port size/Applicable tubing O.D.</th>
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</thead>
<tbody>
<tr>
<td>M5</td>
</tr>
<tr>
<td>M6</td>
</tr>
<tr>
<td>R1/8</td>
</tr>
<tr>
<td>R1/4</td>
</tr>
<tr>
<td>R1/2</td>
</tr>
<tr>
<td>R1/8</td>
</tr>
<tr>
<td>00</td>
</tr>
<tr>
<td>04</td>
</tr>
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<td>06</td>
</tr>
<tr>
<td>08</td>
</tr>
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</tr>
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<td>12</td>
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<td>16</td>
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<td>99</td>
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</table>

Model

<table>
<thead>
<tr>
<th>H</th>
<th>Male connector</th>
<th>T</th>
<th>Male branch tee</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Straight union</td>
<td>TW</td>
<td>Union tee</td>
</tr>
<tr>
<td>F</td>
<td>Different diameter straight</td>
<td>TX</td>
<td>Different diameter cross</td>
</tr>
<tr>
<td>L</td>
<td>Male elbow</td>
<td>TY</td>
<td>Different diameter cross</td>
</tr>
<tr>
<td></td>
<td>Reduce elbow</td>
<td>D</td>
<td>Delta union</td>
</tr>
<tr>
<td>LU</td>
<td>Male branch connector</td>
<td>U</td>
<td>Branch &quot;Y&quot;</td>
</tr>
<tr>
<td>K</td>
<td>Branch union elbow</td>
<td>UD</td>
<td>Different dia. union &quot;Y&quot;</td>
</tr>
<tr>
<td>V</td>
<td>Universal male elbow</td>
<td></td>
<td>Plug-in &quot;Y&quot;</td>
</tr>
<tr>
<td>VS</td>
<td>Hexagon socket head universal male elbow</td>
<td></td>
<td>Delta branch</td>
</tr>
<tr>
<td>VF</td>
<td>Universal female elbow</td>
<td></td>
<td>Different dia. union &quot;Y&quot;</td>
</tr>
<tr>
<td>LF</td>
<td>Female elbow</td>
<td>XD</td>
<td>Double plug-in &quot;Y&quot;</td>
</tr>
<tr>
<td>VO</td>
<td>Double universal male elbow</td>
<td>X</td>
<td>Different dia. plug-in &quot;Y&quot;</td>
</tr>
<tr>
<td>VT</td>
<td>Triple universal male elbow</td>
<td>R</td>
<td>Plug-in reducer</td>
</tr>
<tr>
<td>Z</td>
<td>Branch universal male elbow</td>
<td>E</td>
<td>Bulkhead union</td>
</tr>
<tr>
<td>ZP</td>
<td>Branch universal female elbow</td>
<td></td>
<td>Bulkhead connector</td>
</tr>
<tr>
<td>ZD</td>
<td>Double branch universal male elbow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZT</td>
<td>Triple branch universal male elbow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>Extended plug-in elbow</td>
<td>LE</td>
<td>Bulkhead male elbow</td>
</tr>
</tbody>
</table>

Accessory

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Body</th>
<th>Release button</th>
<th>One-touch fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
- Available only for white color body.
- Use the below part number to order the gasket for M5 and M6 threads.
- Gasket for M5 thread: M-5G2
- Gasket for M6 thread: M-6G

Made to Order
Refer to page 58 for details.

* Available only for white color body.
One-touch Fitting Series KQ2

Applicable Tubing

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>FEP, PFA, Nylon, Soft nylon (1), Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D.</td>
<td>φ3.2, φ4, φ6, φ8, φ10, φ12, φ16</td>
</tr>
</tbody>
</table>

Note 1) Soft nylon tubing is not compatible with water.

Product's Color

<table>
<thead>
<tr>
<th>Series</th>
<th>Body</th>
<th>Release button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series KQ2</td>
<td>White</td>
<td>Light gray</td>
</tr>
<tr>
<td>Series KQ</td>
<td>Black</td>
<td>Blue</td>
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</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (3)</td>
<td>-100 kPa to 1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>3 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-5 to 60°C, Water: 0 to 40°C (No freezing)</td>
</tr>
</tbody>
</table>

Thread

| Mounting section | JIS B2023 (Taper thread for piping) |
| Nut section      | JIS B2025 (Metric coarse thread)    |

Seal on the threads

- With sealant or none

Note 2) The surge pressure must be under the maximum operating pressure.
Note 3) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

<table>
<thead>
<tr>
<th>Body</th>
<th>C3604, PBT, PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud</td>
<td>C3604 (Thread portion)</td>
</tr>
<tr>
<td>Chuck</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>Guide</td>
<td>Stainless steel 304, C3604, PBT</td>
</tr>
<tr>
<td>Collet, Release button</td>
<td>POM</td>
</tr>
<tr>
<td>Seal, O-ring</td>
<td>NBR</td>
</tr>
<tr>
<td>Gasket</td>
<td>Stainless steel 304, NBR</td>
</tr>
</tbody>
</table>

Made to Order
(Refer to page 58 for details.)
**Series KQ2**

**Model**

- **Hex. socket head male connector**
  - KQ2S
  - Page 42
  - Internal hex. allows thread connection by using an allen wrench for confined spaces.

- **45° male elbow**
  - KQ2K
  - Page 44
  - Use to pipe in 45° direction from female thread. Model in-between of male connector and male elbow.

- **Bulkhead union**
  - KQ2E
  - Page 56
  - Use to connect tubes through a panel.

- **Nipple**
  - KQ2N
  - Page 57
  - Use to connect One-touch fittings.

- **Male connector**
  - KQ2H
  - Page 42
  - Use to pipe in the same direction from female thread. Most general style.

- **Female connector**
  - KQ2F
  - Page 42
  - Use to pipe from male thread such as pressure gauge.

- **Straight union**
  - KQ2H
  - Page 43
  - Use to connect tubes in the same direction.

- **Different diameter straight**
  - KQ2H
  - Page 43
  - Use to connect different sized tubes.

- **Cross**
  - KQ2TW
  - Page 51
  - Use to four-branch line.

- **Male elbow**
  - KQ2L
  - Page 43
  - Use to pipe at right angles to female thread. Most general style.

- **Union elbow**
  - KQ2L
  - Page 48
  - Use to connect tubes at right angles.

- **Plug-in elbow**
  - KQ2L
  - Page 49
  - Use to change by 90° in a tube fetching direction from One-touch fittings.

- **Reducer elbow**
  - KQ2L
  - Page 49
  - Use to change by 90° in a tube fetching direction from One-touch fittings and to size down.

- **Universal male elbow**
  - KQ2V
  - Page 45
  - Universal male elbow allows thread connection by using a socket wrench for confined spaces.

- **Extended male elbow**
  - KQ2W
  - Page 50
  - Basically, it is used together with male elbow. Different point is that it is used for with fittings to avoid from interfering with each other by making the piping two-level.

- **Bulkhead connector**
  - KQ2E
  - Page 56
  - Use to connect male head and tube through a panel.

- **Reducer nipple**
  - KQ2N
  - Page 57
  - Use to connect One-touch fittings that are different tubing O.D.s.

- **Male branch tee**
  - KQ2T
  - Page 50
  - Use to branch line from female thread in both 90° directions.

- **Union tee**
  - KQ2T
  - Page 51
  - Use to connect tubes in both 90° directions.

- **Different diameter tee**
  - KQ2T
  - Page 51
  - Use to connect tubes with size down in both 90° directions.

- **Different diameter tee**
  - KQ2T
  - Page 51
  - Use to branch line with size down in both side 90° direction.

- **Different diameter cross**
  - KQ2TY
  - Page 52
  - Use to branch line with size down in three directions.
One-touch Fitting Series KQ2

**Hexagon socket head universal male elbow**

KQ2VS  P. 45

Use to branch piping at right angles to female thread.

**Male branch connector**

KQ2LU  P. 44

Use to branch line in the same direction or at right angles from male or female thread.

**Universal female elbow**

KQ2VF  P. 46

Use to branch line in the same direction or at right angles from male or female thread. Multiplex connection possible.

**Female elbow**

KQ2LF  P. 46

Use to pipe at right angles to male thread.

**Double universal male elbow**

KQ2VD  P. 46

Use to branch line at right angles to female thread. Two individual parts rotate 360°.

**Triple universal male elbow**

KQ2VT  P. 47

Use to three-branch line at right angles from female thread. Three individual parts rotate 360°.

**Branch universal male elbow**

KQ2Z  P. 47

Hexagonal head allows thread connection by using a box wrench. Used for branch connection.

**Branch universal female elbow**

KQ2ZF  P. 47

Use to branch line in the same direction or at right angles from male or female thread.

**Double branch universal male elbow**

KQ2ZD  P. 48

Use to four-branch line at right angles from female thread. Two individual parts rotate 360°.

**Male tee**

KQ2Y  P. 52

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

**Triple branch universal male elbow**

KQ2ZT  P. 48

Use to six-branch line at right angles from female thread. Three individual parts rotate 360°.

**Different dia. union “Y”**

KQ2U  P. 54

Use to branch line with size down in the same direction.

**Branch union elbow**

KQ2LU  P. 49

Use to branch line at right angles.

**Extended plug-in elbow**

KQ2W  P. 49

When the elbow extends over a standard elbow for ease of connection/disconnection of tube.

**Different dia. double union “Y”**

KQ2UD  P. 54

Use to four-branch line in the same direction from female thread.

**Plug-in “Y”**

KQ2U  P. 55

Use to branch line in the same direction from One-touch fittings.

**Plug-in reducer**

KQ2R  P. 56

Use to change size of One-touch fittings.

**Bulkhead male elbow**

KQ2LE  P. 56

Use to connect tubes through a panel, changing by 90° in a tube fetching direction.

**Adaptor**

KQ2N  P. 57

Use to connect fitting and R female thread.

**Tube cap**

KQ2C  P. 57

Use to plug unused tube.

**Color cap**

KQ2C  P. 57

Mounted on the release button corresponding to its applications. Distinguished by color.

**Plug**

KQ2P, KQP  P. 57

Use to plug unused One-touch fittings. KQ2P (Blue) KQ2P (White)

**Union “Y”**

KQ2U  P. 54

Use to branch line in the same direction.
### Series KQ2

**Male Connector: KQ2H**

<table>
<thead>
<tr>
<th>Connection Thread R</th>
<th>Model</th>
<th>H (with across flats) (mm)</th>
<th>øD1 (mm)</th>
<th>øD2 (mm)</th>
<th>L (mm)</th>
<th>A* (mm)</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>KQ2H23-M5</td>
<td>7</td>
<td>7</td>
<td>16.7</td>
<td>13.6</td>
<td>12.7</td>
<td>3</td>
<td>2.5</td>
<td>2.1</td>
</tr>
<tr>
<td>M6 x 1.0</td>
<td>KQ2H23-M6</td>
<td>8</td>
<td>8</td>
<td>17</td>
<td>13.9</td>
<td>12.7</td>
<td>4</td>
<td>4</td>
<td>2.4</td>
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<tr>
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<td>KQ2H20-M6</td>
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<td>19.1</td>
<td>14.9</td>
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<td>2.9</td>
<td>2.7</td>
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<td>21.6</td>
<td>18.5</td>
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<td>4.1</td>
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<tr>
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<td>22.5</td>
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<td>17</td>
<td>13.1</td>
<td>10.4</td>
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<td>KQ2H06-03S</td>
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<td>18.0</td>
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<td>KQ2H08-01S</td>
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<td>27.1</td>
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<td>26.1</td>
<td>24</td>
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<td>KQ2H08-02S</td>
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<td>26.1</td>
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<td>KQ2H10-01S</td>
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<td>26.1</td>
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<td>30</td>
</tr>
<tr>
<td></td>
<td>KQ2H10-02S</td>
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<td>22</td>
<td>26.1</td>
<td>19</td>
<td>17</td>
<td>10.7</td>
<td>10.0</td>
<td>12</td>
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<td>KQ2H12-01S</td>
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<tr>
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<td>KQ2H12-02S</td>
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<td>22</td>
<td>34</td>
<td>28.5</td>
<td>19</td>
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<td>113</td>
<td>96</td>
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</tbody>
</table>

* Reference dimensions after R thread installation.

**Hexagon Socket Head Male Connector: KQ2S**

<table>
<thead>
<tr>
<th>Connection Thread R</th>
<th>Model</th>
<th>H (with across flats) (mm)</th>
<th>øD1 (mm)</th>
<th>øD2 (mm)</th>
<th>L (mm)</th>
<th>A* (mm)</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>KQ2S04-M5</td>
<td>8</td>
<td>8</td>
<td>18</td>
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<td>12.7</td>
<td>4</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>M6 x 1.0</td>
<td>KQ2S04-M6</td>
<td>10</td>
<td>10</td>
<td>19.5</td>
<td>15.6</td>
<td>15.5</td>
<td>3.4</td>
<td>3.3</td>
<td>3.4</td>
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<tr>
<td></td>
<td>KQ2S06-M6</td>
<td>14</td>
<td>14</td>
<td>24</td>
<td>20</td>
<td>17</td>
<td>10.0</td>
<td>9.9</td>
<td>9.9</td>
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<tr>
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<td>KQ2S08-M6</td>
<td>17</td>
<td>17</td>
<td>28.8</td>
<td>24</td>
<td>21</td>
<td>18.5</td>
<td>16.2</td>
<td>16.2</td>
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<td>KQ2S10-M6</td>
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<td>32</td>
<td>28</td>
<td>23.3</td>
<td>23.3</td>
<td>11</td>
<td>11</td>
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<tr>
<td></td>
<td>KQ2S12-M6</td>
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<td>22</td>
<td>36</td>
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</tr>
</tbody>
</table>

* Reference dimensions after R thread installation.

**Female Connector: KQ2F**

<table>
<thead>
<tr>
<th>Connection thread Rc</th>
<th>Model</th>
<th>H (with across flats) (mm)</th>
<th>øD1 (mm)</th>
<th>øD2 (mm)</th>
<th>L1 (mm)</th>
<th>L2 (mm)</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>KQ2F04-01</td>
<td>17</td>
<td>17</td>
<td>27</td>
<td>11</td>
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<td>3</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>M6 x 1.0</td>
<td>KQ2F04-02</td>
<td>17</td>
<td>17</td>
<td>27.5</td>
<td>11</td>
<td>16</td>
<td>3.4</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>KQ2F06-01</td>
<td>19</td>
<td>19</td>
<td>33.5</td>
<td>15</td>
<td>15</td>
<td>5.6</td>
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<td></td>
<td>KQ2F06-02</td>
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* Reference dimensions after R thread installation.

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Note 1) øD: Max. diameter
Note 2) (): Values for soft nylon.
Note 3) (mm): Values for soft nylon.
## One-touch Fitting Series KQ2

### Straight Union: KQ2H

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Note 1: dD: Max. diameter
Note 2: (): Values for soft nylon.

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Note 1: dD: Max. diameter
Note 2: (): Values for soft nylon.

### Male Elbow: KQ2L

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Note 1: dD: Max. diameter
Note 2: (): Values for soft nylon.
Series KQ2

Male Branch Connector: KQ2LU

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45° Male Elbow: KQ2K

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Note 1) øD1: Max. diameter
Note 2) ( ): Values for soft nylon.

+ Reference dimensions after R thread installation.
Note) øD: Max. diameter
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## Series KQ2

### Universal Female Elbow: KQ2VF

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<th>L1</th>
<th>L2</th>
<th>L3</th>
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* Reference dimensions after R thread installation.

Note) øD1: Max. diameter

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<th>L3</th>
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* Reference dimensions after R thread installation.

Note) øD1: Max. diameter

### Double Universal Male Elbow: KQ2VD

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* Reference dimensions after R thread installation.

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

(Note) aD1: Max. diameter
### Series KQ2

#### Double Branch Universal Male Elbow: KQ2ZD

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*Reference dimensions after R thread installation.*

**Note:** øD1: Max. diameter

#### Triple Branch Universal Male Elbow: KQ2ZT

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*Reference dimensions after R thread installation.*

**Note:** øD1: Max. diameter

#### Union Elbow: KQ2L

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<th>L</th>
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<th>M</th>
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<th>Mass (g)</th>
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**Note:** øD: Max. diameter

**Note 2:** ( ) Valves for soft nylon.
### Branch Union Elbow: KQ2LU

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Note: øD: Max. diameter

### Plug-in Elbow: KQ2L

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### Extended Plug-in Elbow: KQ2W

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### Reducer Elbow: KQ2L

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Note: øD: Max. diameter
### Series KQ2

#### Extended Male Elbow: KQ2W

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#### Male Branch Tee: KQ2T

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Note 1) øD1: Max. diameter
Note 2) (): Values for soft nylon

* Reference dimensions after R thread installation.

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

---

(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon

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(1) øD1: Max. diameter
(2): Values for soft nylon

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(1) øD2: Max. diameter
(2): Values for soft nylon
### Union Tee: KQ2T

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Note 1: øD: Max. diameter  
Note 2: Valves for soft nylon.

### Different Diameter Tee: KQ2T

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Note 1: øD1: Max. diameter  
Note 2: Valves for soft nylon.

### Different Diameter Tee: KQ2T

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Note: øD: Max. diameter

### Cross: KQ2TW

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Note: øD: Max. diameter

### Different Diameter Cross: KQ2TX

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Note: øD: Max. diameter
Series KQ2

Different Diameter Cross: KQ2TY

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Note) øD: max. diameter

Male Run Tee: KQ2Y

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<th>A</th>
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Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter
Notes 2) ( ) Values for soft nylon
One-touch Fitting Series KQ2

Male Delta Union: KQ2D

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<th>Applicable tubing O.D. (mm)</th>
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Note) øD: Max. diameter

Applicable tubing O.D. (mm) Model H (approximate length) D L Q M Effective area (mm²) Mass (g) Nylon Urethane

Delta Union: KQ2D

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Note) øD: Max. diameter

Branch “Y”: KQ2U

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Note 1) øD: Max. diameter
Note 2) (): Values for soft nylon

- Reference dimensions after R thread installation.

Note) øD: Max. diameter

Connection thread

**Reference dimensions after R thread installation.**
Note) øD: Max. diameter

Note 1) øD: Max. diameter
Note 2) (): Values for soft nylon
### Series KQ2

**Delta Branch: KQ2UD**

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (mm)</th>
<th>Model</th>
<th>ΦD₁</th>
<th>ΦD₂</th>
<th>L₁</th>
<th>L₂</th>
<th>P</th>
<th>Q</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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<tbody>
<tr>
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* Reference dimensions after R thread installation. (Note) ΦD₁: Max. diameter

**Union “Y”: KQ2U**

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<th>ΦD₂</th>
<th>L₁</th>
<th>L₂</th>
<th>P</th>
<th>Q</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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Note 1) ΦD₁: Max. diameter

**Different Diameter Union “Y”: KQ2U**

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<th>Applicable tubing O.D. (mm)</th>
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<th>ΦD₂</th>
<th>L₁</th>
<th>L₂</th>
<th>P</th>
<th>Q</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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Note 2) (): Values for soft nylon.

**Different Diameter Double Union “Y”: KQ2UD**

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<th>L₁</th>
<th>L₂</th>
<th>P</th>
<th>Q</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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Note 3) ΦD₁, ΦD₂: Max. diameter

---

*Note: KQ2U and KQ2UD are series of fittings designed for use in pneumatic systems. They are characterized by their streamlined design and ease of assembly. The tables and diagrams provided outline various models, their dimensions, and effective areas, along with mass values to help in selecting the appropriate fitting for specific applications.*
### One-touch Fitting Series KQ2

#### Plug-in “Y”: KQ2U

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (mm)</th>
<th>Applicable fitting size ød</th>
<th>Model</th>
<th>eD</th>
<th>L1</th>
<th>L2</th>
<th>P</th>
<th>Q</th>
<th>A</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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**Note:** øD: Max. diameter

#### Double Plug-in “Y”: KQ2XD

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<th>Applicable fitting size ød</th>
<th>Model</th>
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<th>øD2</th>
<th>L1</th>
<th>L2</th>
<th>I</th>
<th>Q</th>
<th>A</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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**Note:** øD1: Max. diameter

#### Different Diameter Plug-in “Y”: KQ2X

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<th>øD2</th>
<th>L1</th>
<th>L2</th>
<th>A</th>
<th>P</th>
<th>Q</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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<tbody>
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<td>16</td>
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<td>10</td>
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**Note:** øD1: Max. diameter
### Series KQ2

#### Plug-in Reducer: KQ2R

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<th>L</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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#### Bulkhead Union: KQ2E

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<th>Mass (g)</th>
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#### Bulkhead Male Elbow: KQ2LE

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<th>Effective area (mm²)</th>
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#### Bulkhead Connector: KQ2E

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<td>18.5</td>
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Note: øD: Max. diameter.
Note 2 (): Values for soft nylon.
### Adaptor: KQ2N

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<th>Connection thread R</th>
<th>Model</th>
<th>H (with across flats)</th>
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<th>A*</th>
<th>M</th>
<th>ød</th>
<th>Mass (g)</th>
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<td>6.5</td>
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<td></td>
</tr>
<tr>
<td>10</td>
<td>7/8</td>
<td>KQ2N06-03S</td>
<td>17</td>
<td>39</td>
<td>16</td>
<td>8</td>
<td>20.6</td>
<td></td>
</tr>
</tbody>
</table>

* Reference dimensions after R thread is screwed in.

### Nipple: KQ2N

<table>
<thead>
<tr>
<th>Applicable fitting øD</th>
<th>Model</th>
<th>L</th>
<th>M</th>
<th>ød</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>KQ2N04-99</td>
<td>37</td>
<td>16</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>KQ2N06-99</td>
<td>39</td>
<td>17</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>KQ2N08-99</td>
<td>43</td>
<td>18.5</td>
<td>6</td>
<td>2</td>
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<tr>
<td>10</td>
<td>KQ2N10-12</td>
<td>52</td>
<td>22</td>
<td>9</td>
<td>20.6</td>
</tr>
<tr>
<td>12</td>
<td>KQ2N12-16</td>
<td>57</td>
<td>25</td>
<td>13</td>
<td>31</td>
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</tbody>
</table>

### Reducer Nipple: KQ2N

<table>
<thead>
<tr>
<th>Applicable fitting øD</th>
<th>Model</th>
<th>L</th>
<th>M1</th>
<th>M2</th>
<th>ød</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>6</td>
<td>38</td>
<td>17</td>
<td>16</td>
<td>2.5</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>42</td>
<td>18.5</td>
<td>17</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>47</td>
<td>21</td>
<td>18.5</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>51</td>
<td>22</td>
<td>21</td>
<td>8</td>
<td>18.2</td>
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<td>16</td>
<td>55</td>
<td>25</td>
<td>22</td>
<td>9</td>
<td>29</td>
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</table>

### Tube Cap: KQ2C

<table>
<thead>
<tr>
<th>Applicable tubing ØD (mm)</th>
<th>Model</th>
<th>øD1</th>
<th>øD2</th>
<th>L</th>
<th>M</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>KQ2C04-00</td>
<td>10.4</td>
<td>17</td>
<td>16</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>KQ2C06-00</td>
<td>12.8</td>
<td>18.5</td>
<td>17</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>KQ2C08-00</td>
<td>15.2</td>
<td>20.5</td>
<td>18.5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>KQ2C10-00</td>
<td>18.5</td>
<td>23</td>
<td>21</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>KQ2C12-00</td>
<td>20.9</td>
<td>24</td>
<td>22</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>KQ2C16-00</td>
<td>26.5</td>
<td>28</td>
<td>25</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

### Color Cap: KQ2C

<table>
<thead>
<tr>
<th>Applicable tubing ØD (mm)</th>
<th>Model</th>
<th>øD1</th>
<th>øD2</th>
<th>L</th>
<th>Mass (g)</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>KQ2C04-01</td>
<td>10.1</td>
<td>5.2</td>
<td>2.9</td>
<td>0.1</td>
<td>KQH, KQ2H04-M5, M6</td>
</tr>
<tr>
<td>4</td>
<td>KQ2C04A</td>
<td>8.5</td>
<td>5</td>
<td>2.2</td>
<td>0.1</td>
<td>KQL, KQ2L04-M5, M6</td>
</tr>
<tr>
<td>4</td>
<td>KQ2C04B</td>
<td>9.7</td>
<td>5</td>
<td>2.2</td>
<td>0.1</td>
<td>KQY, KQ2Y04-M5, M6</td>
</tr>
<tr>
<td>6</td>
<td>KQ2C06-01</td>
<td>12.1</td>
<td>7.5</td>
<td>2.9</td>
<td>0.1</td>
<td>KQH, KQ2H06-M5, M6</td>
</tr>
<tr>
<td>6</td>
<td>KQ2C06A</td>
<td>10.5</td>
<td>7</td>
<td>2.2</td>
<td>0.1</td>
<td>KQH, KQ2H06-M5, M6</td>
</tr>
<tr>
<td>6</td>
<td>KQ2C06B</td>
<td>12.0</td>
<td>7</td>
<td>2.2</td>
<td>0.1</td>
<td>KQY, KQ2Y06-M5, M6</td>
</tr>
<tr>
<td>8</td>
<td>KQ2C08-01</td>
<td>14.1</td>
<td>9.2</td>
<td>2.9</td>
<td>0.1</td>
<td>KQH, KQ2H08-M5, M6</td>
</tr>
<tr>
<td>10</td>
<td>KQ2C10-01</td>
<td>17.1</td>
<td>11.2</td>
<td>2.9</td>
<td>0.1</td>
<td>KQH, KQ2H10-M5, M6</td>
</tr>
<tr>
<td>12</td>
<td>KQ2C12-01</td>
<td>19.1</td>
<td>13.2</td>
<td>2.9</td>
<td>0.2</td>
<td>KQH, KQ2H12-M5, M6</td>
</tr>
<tr>
<td>16</td>
<td>KQ2C16-01</td>
<td>26.3</td>
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<td>3.9</td>
<td>0.3</td>
<td>KQH, KQ2H16-M5, M6</td>
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</table>

### Plug: KQ2P, KQP

<table>
<thead>
<tr>
<th>Applicable fitting size øD</th>
<th>Model Name</th>
<th>øD</th>
<th>L</th>
<th>A</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>KQ2P-03</td>
<td>5</td>
<td>31.5</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>KQ2P-04</td>
<td>6</td>
<td>32</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>KQ2P-06</td>
<td>8</td>
<td>35</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>KQ2P-08</td>
<td>10</td>
<td>39</td>
<td>20.5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>KQ2P-10</td>
<td>12</td>
<td>43</td>
<td>22</td>
<td>3.5</td>
</tr>
<tr>
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<td>KQ2P-12</td>
<td>14</td>
<td>45.5</td>
<td>24</td>
<td>5</td>
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<td>16</td>
<td>KQ2P-16</td>
<td>20.9</td>
<td>47</td>
<td>22</td>
<td>8</td>
</tr>
</tbody>
</table>

Note) KQ2P (White), KQP (Blue)
# Series KQ2
## Made to Order Specifications

Please contact SMC for detailed dimensions, specifications, and delivery.

### 1 Grease-free Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X17</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td>X29</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Copper-free (Electroless nickel plated)</td>
</tr>
<tr>
<td>X39</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Clean (Copper-free, air blow, double package, resin body: white)</td>
</tr>
<tr>
<td>X94</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: FKM (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
</tbody>
</table>

### 2 Other Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2</td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X12</td>
<td>Lubricant: White Vaseline</td>
</tr>
<tr>
<td></td>
<td>Release button color: White</td>
</tr>
<tr>
<td>X34</td>
<td>Rubber material: FKM</td>
</tr>
<tr>
<td>X41</td>
<td>With fixed throttle Note)</td>
</tr>
</tbody>
</table>

Note: Compatible with male connector and male elbow only
Consult SMC separately for the available fixed throttle diameters.

### Spare Parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
<th>Applicable thread</th>
<th>Material</th>
<th>Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasket</td>
<td>M-5G2</td>
<td>M5</td>
<td>Stainless steel 304, NBR</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>M-6G</td>
<td>M6</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Pipe nut</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KQ04-P01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E23-00, KQ2E04-00, KQ2E23-02</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E04-01, KQ2E04-02, KQ2LE04-00</td>
</tr>
<tr>
<td>KQ06-P01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E06-00, KQ2E06-01</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E06-02, KQ2E06-03, KQ2LE06-00</td>
</tr>
<tr>
<td>KQ08-P01</td>
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<td>—</td>
<td>—</td>
<td>KQ2E08-00, KQ2E08-01</td>
</tr>
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<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E08-02, KQ2E08-03, KQ2LE08-00</td>
</tr>
<tr>
<td>KQ10-P01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E10-00, KQ2E10-02</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E10-03, KQ2LE10-00</td>
</tr>
<tr>
<td>KQ12-P01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E12-00, KQ2E12-03</td>
</tr>
<tr>
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<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E12-04, KQ2LE12-00</td>
</tr>
<tr>
<td>KQ16-P01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>KQ2E16-00, KQ2E16-03, KQ2E16-04</td>
</tr>
</tbody>
</table>
Inch-size One-touch Fittings

Series KQ2

Applicable Tubing: Inch Size
Connection Thread: UNF, NPT

How to Order

KQ 2 H 05 - 34 S

- Made to Order
  (Refer to page 75 for details.)

- With thread sealant
  (Male thread)

<table>
<thead>
<tr>
<th>Port size/Applicable tubing O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPT 1/16</td>
</tr>
<tr>
<td>NPT 1/4</td>
</tr>
<tr>
<td>NPT 1/2</td>
</tr>
</tbody>
</table>

- Applicable tubing O.D.

<table>
<thead>
<tr>
<th>Model</th>
<th>Male connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Male connector</td>
</tr>
<tr>
<td>S</td>
<td>Hexagon socket head male connector</td>
</tr>
<tr>
<td>F</td>
<td>Female union</td>
</tr>
<tr>
<td>L</td>
<td>Elbow</td>
</tr>
<tr>
<td>K</td>
<td>45° male elbow</td>
</tr>
<tr>
<td>V</td>
<td>Universal male elbow</td>
</tr>
<tr>
<td>VS</td>
<td>Hexagon socket head universal male elbow</td>
</tr>
<tr>
<td>VF</td>
<td>Universal female elbow</td>
</tr>
<tr>
<td>LF</td>
<td>Female elbow</td>
</tr>
<tr>
<td>VD</td>
<td>Double universal male elbow</td>
</tr>
<tr>
<td>VT</td>
<td>Triple universal male elbow</td>
</tr>
<tr>
<td>Z</td>
<td>Branch universal male elbow</td>
</tr>
<tr>
<td>ZD</td>
<td>Double branch universal male elbow</td>
</tr>
<tr>
<td>ZT</td>
<td>Triple branch universal male elbow</td>
</tr>
<tr>
<td>W</td>
<td>Extended male elbow</td>
</tr>
<tr>
<td>T</td>
<td>Male branch tee</td>
</tr>
<tr>
<td>TW</td>
<td>Union tee</td>
</tr>
<tr>
<td>Y</td>
<td>Male run tee</td>
</tr>
<tr>
<td>U</td>
<td>Branch &quot;Y&quot;</td>
</tr>
<tr>
<td>X</td>
<td>Different dia. union &quot;Y&quot;</td>
</tr>
<tr>
<td>R</td>
<td>Plug-in reducer</td>
</tr>
<tr>
<td>E</td>
<td>Bulkhead union</td>
</tr>
<tr>
<td>LE</td>
<td>Bulkhead union elbow</td>
</tr>
</tbody>
</table>

Accessory

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ2N</td>
<td>Nipple</td>
</tr>
<tr>
<td>KQ2C</td>
<td>Reducer nipple</td>
</tr>
<tr>
<td>KQ2P</td>
<td>Plug (Orange)</td>
</tr>
</tbody>
</table>

Use the below part number to order the gasket for sealing 10-32 UNF thread.
Gasket for 10-32 UNF: M-10/32G

Note: Port size with sealant: Only NPT 1/16, NPT 1/8, NPT 1/4, NPT 3/8, NPT 1/2.
Inch-size One-touch Fittings **Series KQ2**

**Series KQ2: White body**  
**Series KQ: Black body**

- **Guide**
- **Collet**
- **Chuck**

Suitable for use with nylon and urethane.  
Large retaining force.  
Has large retaining force while holding force is increased by the collet.

- **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.

- **Seal**

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.  
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

- **Tube**

**Inch size**  
- Ø1/8”, Ø5/32”, Ø3/16”, Ø1/4”, Ø5/16”, Ø3/8”, Ø1/2”

- **Body**

- **O-ring**

- **Stud**

Effective when piping in a confined space.  
The body and the threaded portion can rotate (for positioning to some extent).

**Applicable Tubing**

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>FEP, PFA, Nylon, Soft nylon(1), Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D.</td>
<td>Ø1/8”, Ø5/32”, Ø3/16”, Ø1/4”, Ø5/16”, Ø3/8”, Ø1/2”</td>
</tr>
</tbody>
</table>

Note 1) Soft nylon tubing is not compatible with water.

**Specifications**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (3)</td>
<td>~100 kPa to 1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>3 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-5 to 60°C, Water: 0 to 40°C (No freezing)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thread</th>
<th>Mounting section</th>
<th>Nut section</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI/ASME B1.20.1 (NPT thread)</td>
<td>JIS B0208 (UNF thread)</td>
<td></td>
</tr>
<tr>
<td>JIS B0208 (UNF thread)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 2) The surge pressure must be under the maximum operating pressure.  
Note 3) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

**Principal Parts Material**

<table>
<thead>
<tr>
<th>Body</th>
<th>C3604, PBT, PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud</td>
<td>C3604 (Thread portion)</td>
</tr>
<tr>
<td>Chuck</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>Guide</td>
<td>Stainless steel 304, C3604, PBT</td>
</tr>
<tr>
<td>Collet</td>
<td>POM</td>
</tr>
<tr>
<td>Release button</td>
<td>POM</td>
</tr>
<tr>
<td>Seal, O-ring</td>
<td>NBR</td>
</tr>
<tr>
<td>Gasket</td>
<td>Stainless steel 304, NBR</td>
</tr>
</tbody>
</table>

**Made to Order**

Refer to page 75 for details.
Series KQ2

**Model**

<table>
<thead>
<tr>
<th>Hex. socket head male connector</th>
<th>Universal male elbow</th>
</tr>
</thead>
<tbody>
<tr>
<td>KQ2S</td>
<td>KQ2V</td>
</tr>
<tr>
<td>P. 64</td>
<td>P. 66</td>
</tr>
</tbody>
</table>

**45° male elbow**

- **KQ2K**
- P. 66
- Use to pipe in 45° angle direction from female thread. Model in-between of male connector and male elbow.

**Bulkhead union**

- **KQ2E**
- P. 73
- Use to connect tubes through a panel.

**Nipple**

- **KQ2N**
- P. 74
- Use to connect One-touch fittings.

**Male connector**

- **KQ2H**
- P. 64
- Use to pipe in the same direction from female thread. Most general style.

**Female connector**

- **KQ2F**
- P. 64
- Use to pipe from male thread such as pressure gauge.

**Straight union**

- **KQ2H**
- P. 65
- Use to connect tubes in the same direction.

**Different diameter straight**

- **KQ2H**
- P. 65
- Use to connect different sized tubes.

**Male elbow**

- **KQ2L**
- P. 65
- Use to pipe at right angles to female thread. Most general style.

**Universal male elbow**

- **KQ2VS**
- P. 66
- Hex. on the top allows thread connection by using an allen wrench for confined spaces.

**Universal male elbow**

- **KQ2V**
- P. 66
- Universal male elbow allows thread connection by using a socket wrench for confined spaces.

**Extended male elbow**

- **KQ2W**
- P. 70
- 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.

**Bulkhead connector**

- **KQ2E**
- P. 74
- Use to connect male thread and tube through a panel.

**Reducer nipple**

- **KQ2N**
- P. 74
- Use to connect One-touch fittings that are different tubing O.Ds.

**Branch universal male elbow**

- **KQ2Z**
- hexagonal head allows thread connection by using a box wrench. Use for branch connection.

**Double branch universal male elbow**

- **KQ2ZD**
- Use to four-branch line at right angles from female thread. Two individual parts rotate 360°.

**Triple branch universal male elbow**

- **KQ2ZT**
- Use to six-branch line at right angles from female thread. Three individual parts rotate 360°.

**Union elbow**

- **KQ2L**
- P. 69
- Use to connect tubes at right angles.

**Plug-in elbow**

- **KQ2L**
- P. 69
- Use to change by 90° in a tube fetching direction from One-touch fittings and to size down.
Inch-size One-touch Fittings Series KQ2

Reducer elbow
KQ2L
Use to change by 90° in tube fetching direction from One-touch fittings and to size down.

Male branch tee
KQ2T
Use to branch line from female thread in both 90° directions.

Union tee
KQ2T
Use to connect tubes in both 90° directions.

Different diameter tee
KQ2T
Use to connect tubes with size down in both 90° directions.

Cross
KQ2TW
Use to four-branch line.

Male run tee
KQ2Y
Use to branch line in the same direction from female thread and in 90° direction.

Branch "Y"
KQ2U
Use to branch line in the same direction from female thread.

Different dia. union "Y"
KQ2U
Use to branch line in the same direction from One-touch fittings.

Plug-in "Y"
KQ2U
Use to branch line in the same direction from One-touch fittings.

Different diameter plug-in "Y"
KQ2X
Use to four-branch line from One-touch fitting with size down.

Plug-in reducer
KQ2R
Use to change size of One-touch fittings.

Bulkhead male elbow
KQ2LE
Use to connect tubes through a panel, changing by 90° in a tube fetching direction.

Tube cap
KQ2C
Use to plug unused tube.

Plug
KQ2P, KQP
Use to plug unused One-touch fittings. KQP (Orange)
### Series KQ2

#### Male Connector: KQ2H

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* Reference dimensions after NPT thread installation.

#### Hexagon Socket Head Male Connector: KQ2S

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* Reference dimensions after NPT thread installation.

#### Female Connector: KQ2F

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* Note: dD: Max. diameter
Series KQ2

45° Male Elbow: KQ2K

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Note) øD1: Max. diameter

Universal Male Elbow: KQ2V

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<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
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Note) øD1: Max. diameter

Hexagon Socket Head Universal Male Elbow: KQ2VS

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<th>A*</th>
<th>M</th>
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Note) øD1: Max. diameter
**Universal Female Elbow: KQ2VF**

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<th>Note</th>
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<th>L2</th>
<th>L3</th>
<th>A*</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
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*Reference dimensions after NPT thread installation. Note) øD1: Max. diameter*

**Female Elbow: KQ2LF**

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

**Double Universal Male Elbow: KQ2VD**

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*Reference dimensions after NPT thread installation. Note) øD1: Max. diameter*
### Series KQ2

#### Triple Universal Male Elbow: KQ2VT

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Note: øD1: Max. diameter

Reference dimensions after NPT thread installation.
**Inch-size One-touch Fittings Series KQ2**

### Triple Branch Universal Male Elbow: KQ2ZT

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Note) øD: Max. diameter

### Union Elbow: KQ2L

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Note) øD: Max. diameter

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Note) øD1: Max. diameter

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Note) øD1: Max. diameter
**Series KQ2**

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* Note: øD1: Max. diameter

**Male Branch Tee: KQ2T**

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* Note: øD1: Max. diameter

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* Note: øD1: Max. diameter

### Union Tee: KQ2T

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* Note: øD: Max. diameter
Inch-size One-touch Fittings Series KQ2

### Different Diameter Tee: KQ2T

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*Note) øD: Max. diameter

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*Note) øD: Max. diameter

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*Note) øD1: Max. diameter

*Reference dimensions after NPT thread installation.

+ Connection thread (with sealant)

Note) øD1: Max. diameter
### Series KQ2

**Branch “Y”: KQ2U**

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*Note) eD: Max. diameter

**Union “Y”: KQ2U**

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*Note) eD: Max. diameter

**Different diameter union “Y”: KQ2U**

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*Note) eD1, eD2: Max. diameter

**Plug-in “Y”: KQ2U**

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*Note) eD: Max. diameter
### Inch-size One-touch Fittings Series KQ2

#### Different Diameter Plug-in “Y”: KQ2X

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(Note) øD: Max. diameter

#### Plug-in Reducer: KQ2R

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(Note) øD: Max. diameter

#### Bulkhead Union: KQ2E

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<th>M</th>
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Mounting plate thickness 11 mm or less

#### Bulkhead Male Elbow: KQ2LE

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(Note) øD: Max. diameter
**Series KQ2**

**Bulkhead Connector: KQ2E**

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**Nipple: KQ2N**

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**Reducer Nipple: KQ2N**

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**Plug: KQ2P, KQP**

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<th>A</th>
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<td>KQ2P-13 KQP-13</td>
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<td>KQ2P-13 KQP-13</td>
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</tr>
</tbody>
</table>

Note) KQ2P and KQP: Orange
## Series KQ2

**Made to Order Specifications**

Please contact SMC for detailed dimensions, specifications, and delivery.

### 1 Grease-free Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
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</thead>
<tbody>
<tr>
<td>X17</td>
<td>Grease-free&lt;br&gt;Rubber material: NBR (With fluorine coating)&lt;br&gt;Release button color: Light blue</td>
</tr>
<tr>
<td>X29</td>
<td>Grease-free&lt;br&gt;Rubber material: NBR (With fluorine coating)&lt;br&gt;Release button color: Light blue&lt;br&gt;Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X39</td>
<td>Grease-free&lt;br&gt;Rubber material: NBR (With fluorine coating)&lt;br&gt;Release button color: Light blue&lt;br&gt;Clean (Copper-free, air blow, double package, resin body: white)</td>
</tr>
<tr>
<td>X94</td>
<td>Grease-free&lt;br&gt;Rubber material: FKM (With fluorine coating)&lt;br&gt;Release button color: Light blue</td>
</tr>
</tbody>
</table>

### 2 Other Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2</td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X12</td>
<td>Lubricant: White Vaseline&lt;br&gt;Release button color: White</td>
</tr>
<tr>
<td>X23</td>
<td>Metal material: Stainless steel 303&lt;br&gt;Width across flats: Metric size</td>
</tr>
<tr>
<td>X34</td>
<td>Rubber material: FKM</td>
</tr>
<tr>
<td>X41</td>
<td>With fixed throttle (^{\text{Note}})</td>
</tr>
</tbody>
</table>

\(^{\text{Note}}\) Compatible with male connector and male elbow only<br>Consult SMC separately for the available fixed throttle diameters.

### Spare Parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
<th>Applicable thread</th>
<th>Material</th>
<th>Applicable model</th>
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</thead>
<tbody>
<tr>
<td>Gasket</td>
<td>M-10/32G</td>
<td>10-32 UNF</td>
<td>Stainless steel 304, NBR</td>
<td>KQ2E01-00, KQ2E03-00, KQ2E01-35 KQ2E03-35, KQ2LF01-00, KQ2LE03-00</td>
</tr>
<tr>
<td>Pipe nut</td>
<td>KQ01-P01</td>
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<td>—</td>
<td>KQ2E05-00, KQ2E07-00, KQ2E05-34 KQ2E07-35, KQ2LF05-00, KQ2LE07-00</td>
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<tr>
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<td>KQ05-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E09-00, KQ2E09-36, KQ2LE09-00</td>
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<tr>
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<td>KQ09-P01</td>
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<td>KQ2E11-00, KQ2E11-36, KQ2LE11-00</td>
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<tr>
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<td>KQ11-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E13-00, KQ2E13-36 KQ2E13-37, KQ2LE13-00</td>
</tr>
</tbody>
</table>
Inch-size One-touch Fittings

Series KQ2

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

Guide
Collet
Chuck

Suitable for use with nylon and urethane.
Large retaining force.
Has large retaining force while holding force is increased by the collet.

Release button (Orange)

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
ø 3/16, ø 1/4, ø 5/32, ø 1/8, ø 3/32

Body (White)

Stud

Effective when piping in a confined space.
The body and the threaded portion can rotate.
(To the degree for positioning)

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Connection thread

M, R, Rc

Applicable Tubing

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>FEP, PFA, Nylon, Soft nylon (1), Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D.</td>
<td>ø 3/16, ø 1/4, ø 5/32, ø 1/8, ø 3/32</td>
</tr>
</tbody>
</table>

Note 1) Soft nylon tubing is not compatible with water.

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (3)</td>
<td>-100 kPa to 1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>3 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>-5 to 60°C, Water: 0 to 40°C (No freezing)</td>
</tr>
</tbody>
</table>

Thread

<table>
<thead>
<tr>
<th>Mounting section</th>
<th>JIS B0203 (Taper thread for piping)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nut section</td>
<td>JIS B0205 (Metric fine thread)</td>
</tr>
</tbody>
</table>

Seal on the threads

With sealant or none

Note 2) The surge pressure must be under the maximum operating pressure.
Note 3) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

<table>
<thead>
<tr>
<th>Body</th>
<th>C3604, PBT, PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud</td>
<td>C3604 (Thread portion)</td>
</tr>
<tr>
<td>Chuck</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>Guide</td>
<td>Stainless steel 304, C3604, PBT</td>
</tr>
<tr>
<td>Collet</td>
<td>POM</td>
</tr>
<tr>
<td>Release button</td>
<td>POM</td>
</tr>
<tr>
<td>Seal, O-ring</td>
<td>NBR</td>
</tr>
<tr>
<td>Gasket</td>
<td>Stainless steel 304, NBR</td>
</tr>
</tbody>
</table>

Made to Order
(Refer to page 82 for details.)
**Inch-size One-touch Fittings Series KQ2**

### Model

- **Male connector**
  - KQ2H
  - P. 78
  - Use to pipe in the same direction from female thread. Most general style.

- **Male elbow**
  - KQ2L
  - P. 78
  - Use to pipe at right angles to female thread. Most general style.

- **Extended male elbow**
  - KQ2W
  - P. 79
  - Basically, it is used together with male elbow. Different point is that it is used for fittings to avoid interfering with each other by making the piping two-level.

- **Male branch tee**
  - KQ2T
  - P. 79
  - Use to branch line from female thread in both 90° directions.

- **Male run tee**
  - KQ2Y
  - P. 80
  - Use to branch line in the same direction from female thread and 90° direction.

- **Branch "Y"**
  - KQ2U
  - P. 81
  - Use to branch line in the same direction from femal thread.

- **Bulkhead union**
  - KQ2E
  - P. 81
  - Use to connect male thread and tube through a panel.

- **Bulkhead connector**
  - KQ2E
  - P. 81
  - Use to connect male thread and tube through a panel.

### How to Order

**One-touch fittings**

<table>
<thead>
<tr>
<th>Model</th>
<th>KQ2</th>
<th>H</th>
<th>05</th>
<th>02</th>
<th>S</th>
</tr>
</thead>
</table>

- **Made to Order**
  - Refer to page 82 for details.

- **With thread sealant**
  - Note: Port size with sealant: Only R 1/8, R 1/4, R 3/8, R 1/2

- **Applicable tubing O.D.**
  - M5 x 0.8
  - 01 ø 1/8
  - 02 ø 3/32
  - 03 ø 1/16
  - 04 ø 1/32
  - 00 Same dia. tubing

- **Port size**
  - M5
  - 01 ø 1/8
  - 02 ø 3/32
  - 03 ø 1/16
  - 04 ø 1/32
  - 00 Same dia. tubing

- **With thread sealant**
  - S
  - Without sealant
  - With thread sealant

- **Mark:** With sealant is available.

---

**SMC**
### Series KQ2

#### Male Connector: KQ2H

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Model</th>
<th>H (Width across flats)</th>
<th>Width across flats</th>
<th>L</th>
<th>A</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>KQ2H01-M5</td>
<td>7</td>
<td>16.7</td>
<td>13.6</td>
<td>12.7</td>
<td>2</td>
</tr>
<tr>
<td>1/8</td>
<td>KQ2H01-01S</td>
<td>10</td>
<td>21.1</td>
<td>18</td>
<td>15.5</td>
<td>2.5</td>
</tr>
<tr>
<td>1/4</td>
<td>KQ2H01-02S</td>
<td>14</td>
<td>19</td>
<td>13.5</td>
<td>16</td>
<td>2.5</td>
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<tr>
<td>5/16</td>
<td>KQ2H05-M5</td>
<td>8</td>
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<tr>
<td>3/32</td>
<td>KQ2H05-01S</td>
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<td>18</td>
<td>16.5</td>
<td>3.5</td>
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<tr>
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<td>KQ2H05-02S</td>
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<td>20.5</td>
<td>15</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>5/16</td>
<td>KQ2H07-M5</td>
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</table>

* Reference dimensions after R thread installation. Note øD: Max. diameter

#### Male Elbow: KQ2L

<table>
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<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Model</th>
<th>H (Width across flats)</th>
<th>Width across flats</th>
<th>L</th>
<th>A</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5 x 0.8</td>
<td>KQ2L01-M5</td>
<td>7</td>
<td>15.3</td>
<td>13.2</td>
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<tr>
<td>1/8</td>
<td>KQ2L01-01S</td>
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<td>19.5</td>
<td>21.6</td>
<td>24</td>
<td>16.5</td>
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<tr>
<td>1/4</td>
<td>KQ2L01-02S</td>
<td>14</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>M5 x 0.8</td>
<td>KQ2L07-M5</td>
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<td>16.1</td>
<td>15.1</td>
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<td>KQ2L07-01S</td>
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</tbody>
</table>

* Reference dimensions after R thread installation. Note øD1: Max. diameter

---

**Note:**
- øD: Max. diameter
- øD1: Max. diameter
- M: Min. port size
- Mass: (g)

---

**Diagram:**
- Male Connector: KQ2H
- Male Elbow: KQ2L
### Inch-size One-touch Fittings Series KQ2

#### Extended Male Elbow: KQ2W

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Connection R</th>
<th>Model</th>
<th>H (With cross flats)</th>
<th>Note</th>
<th>øD1</th>
<th>øD2</th>
<th>L1</th>
<th>L2</th>
<th>A*</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>1/8</td>
<td>KQ2W05-01S</td>
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<td>11.4</td>
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<td>19.5</td>
<td>37.1</td>
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<td>3.5</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1/4</td>
<td>KQ2W05-02S</td>
<td>14</td>
<td>15</td>
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<td></td>
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</tr>
<tr>
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<td>25.5</td>
<td>55.5</td>
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<td>7</td>
<td>76</td>
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<tr>
<td></td>
<td>3/8</td>
<td>KQ2W11-03S</td>
<td>22</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>1/4</td>
<td>KQ2W13-02S</td>
<td>17</td>
<td>21.7</td>
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<td>28</td>
<td>57.5</td>
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<td>3/8</td>
<td>KQ2W13-03S</td>
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</table>

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

#### Male Branch Tee: KQ2T

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Connection R</th>
<th>Model</th>
<th>H (With cross flats)</th>
<th>Note</th>
<th>øD1</th>
<th>øD2</th>
<th>L1</th>
<th>L2</th>
<th>A*</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>1/8</td>
<td>KQ2T05-01S</td>
<td>10</td>
<td>11.4</td>
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<td>1/4</td>
<td>KQ2T05-02S</td>
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<td>1/4</td>
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<td>5/16</td>
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<td>KQ2T11-02S</td>
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* Reference dimensions after R thread installation. Note) øD1: Max. diameter
**Series KQ2**

**Male Run Tee: KQ2Y**

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Corrected thread R</th>
<th>Model</th>
<th>H (With across flats)</th>
<th>ØD1</th>
<th>ØD2</th>
<th>L1</th>
<th>L2</th>
<th>A*</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>1/8</td>
<td>KQ2Y05-01S</td>
<td>10</td>
<td>11.4</td>
<td>10</td>
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<td>3.5</td>
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</tr>
<tr>
<td>3/8</td>
<td>1/4</td>
<td>KQ2Y07-02S</td>
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<td>1/4</td>
<td>KQ2Y07-03S</td>
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<td>44</td>
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<td>44</td>
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<td>1/4</td>
<td>KQ2Y09-01S</td>
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<td>12</td>
<td>23.5</td>
<td>23.6</td>
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<td>3/8</td>
<td>1/4</td>
<td>KQ2Y09-02S</td>
<td>14</td>
<td>17</td>
<td>28</td>
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<td>29.6</td>
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<td>1/4</td>
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<td>17.9</td>
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<td>1/2</td>
<td>1/4</td>
<td>KQ2Y11-04S</td>
<td>22</td>
<td>21.7</td>
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<td>28</td>
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<td>22</td>
<td>9.5</td>
<td>43</td>
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</tbody>
</table>

Note) Min. port size

Branch “Y”: KQ2U

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Corrected thread R</th>
<th>Model</th>
<th>H (With across flats)</th>
<th>ØD1</th>
<th>ØD2</th>
<th>L</th>
<th>P</th>
<th>A*</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
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<tbody>
<tr>
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<td>KQ2U05-01S</td>
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<td>1/4</td>
<td>KQ2U07-01S</td>
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<td>13.2</td>
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<td>46.6</td>
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<td>19</td>
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<td>1/4</td>
<td>KQ2U07-02S</td>
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<td>50.4</td>
<td>17</td>
<td>45</td>
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<td>1/4</td>
<td>KQ2U09-03S</td>
<td>17</td>
<td>15.2</td>
<td>15.2</td>
<td>55</td>
<td>17</td>
<td>17</td>
<td>19</td>
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<td>1/4</td>
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<td>17</td>
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</table>

Note) ØD: Max. diameter

* Reference dimensions after R thread installation.
Note) øD1: Max. diameter
### Inch-size One-touch Fittings Series KQ2

#### Bulkhead Union: KQ2E

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Model</th>
<th>T (M)</th>
<th>H (Width across flats)</th>
<th>L</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8</td>
<td>KQ2E05-00M</td>
<td>M14 x 1</td>
<td>17</td>
<td>34</td>
<td>15</td>
<td>16.5</td>
<td>3.5</td>
</tr>
<tr>
<td>1/2</td>
<td>KQ2E07-00M</td>
<td>M14 x 1</td>
<td>17</td>
<td>34.5</td>
<td>15</td>
<td>17</td>
<td>4.5</td>
</tr>
<tr>
<td>5/32</td>
<td>KQ2E09-00M</td>
<td>M16 x 1</td>
<td>19</td>
<td>38</td>
<td>17</td>
<td>18.5</td>
<td>6</td>
</tr>
<tr>
<td>3/32</td>
<td>KQ2E11-00M</td>
<td>M20 x 1</td>
<td>24</td>
<td>42</td>
<td>21</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>1/8</td>
<td>KQ2E13-00M</td>
<td>M22 x 1</td>
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<td>44</td>
<td>23</td>
<td>22</td>
<td>9.5</td>
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</tbody>
</table>

- **Mounting plate thickness**: 11 mm or less

#### Bulkhead Connector: KQ2E

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
<th>Connection thread Rc</th>
<th>Model</th>
<th>T (M)</th>
<th>H1 (Width across flats)</th>
<th>H2 (Width across flats)</th>
<th>L1</th>
<th>L2</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
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</thead>
<tbody>
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<td>KQ2E05-01</td>
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<td>15</td>
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<tr>
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<td>1/4</td>
<td>KQ2E07-02</td>
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<td>3/32</td>
<td>KQ2E09-03</td>
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<td>3/32</td>
<td>KQ2E11-03</td>
<td>22</td>
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<td>14.5</td>
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<td>3/32</td>
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<td>3/32</td>
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<td>41.5</td>
<td>18.5</td>
<td>23</td>
<td>74</td>
<td>78</td>
<td>98</td>
</tr>
</tbody>
</table>

- **Mounting plate thickness**: 7 mm or less

---

**Inch-size One-touch Fittings Series KQ2**

![Diagram of Bulkhead Union: KQ2E](image)

![Diagram of Bulkhead Connector: KQ2E](image)

**Connection thread**

**Mounting plate thickness**

**Applicable tubing**

**Model**
- H1: 17
- H2: 17
- L1: 11.5
- L2: 16.5
- M: 3.5
- Mass (g): 15

---

**Notes:**

- Applicable tubing sizes vary depending on model and port size.
- Connection thread sizes are marked in bold.
- Mass values are provided for each model.
- Diagrams illustrate the physical dimensions and mounting specifications.
**1 Grease-free Specifications**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X17</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td>X29</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X39</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Clean (Copper-free, air blow, double package, resin body: white)</td>
</tr>
<tr>
<td>X94</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: FKM (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
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**2 Other Specifications**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2</td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X12</td>
<td>Lubricant: White Vaseline</td>
</tr>
<tr>
<td></td>
<td>Release button color: White</td>
</tr>
<tr>
<td>X34</td>
<td>Rubber material: FKM</td>
</tr>
<tr>
<td>X41</td>
<td>With fixed throttle <em>(Note)</em></td>
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</tbody>
</table>

*(Note)* Compatible with male connector and male elbow only
Consult SMC separately for the available fixed throttle diameters.

**Spare Parts**

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
<th>Applicable thread</th>
<th>Material</th>
<th>Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasket</td>
<td>M-5G2</td>
<td>M5</td>
<td>Stainless steel 304, NBR</td>
<td>—</td>
</tr>
<tr>
<td>Pipe nut</td>
<td>KQ06-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E05-01, KQ2E07-02</td>
</tr>
<tr>
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<td>KQ08-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E09-03, KQ2E09-00M</td>
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<tr>
<td></td>
<td>KQ10-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E11-03, KQ2E11-00M</td>
</tr>
<tr>
<td></td>
<td>KQ12-P01</td>
<td>—</td>
<td>—</td>
<td>KQ2E13-03, KQ2E13-00M</td>
</tr>
</tbody>
</table>
Metric-size Uni One-touch Fittings
Series KQ2
Applicable Tubing: Metric Size
Connection Thread: Rc, G, NPT, NPTF

New-stand male thread for piping that reduces the screw-in time by 1/3.

Uni thread ridge shape
A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamber of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF. The male thread for piping drastically cuts piping man-hours.

Applicable Tubing

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>FEP, PFA, Nylon, Soft nylon (1), Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O. D.</td>
<td>ø4, ø6, ø8, ø10, ø12, ø16</td>
</tr>
</tbody>
</table>

Note 1) Soft nylon tubing is not compatible with water.

Product’s Color

<table>
<thead>
<tr>
<th>Series</th>
<th>Body</th>
<th>Release button</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series KQ2</td>
<td>White</td>
<td>Light gray</td>
</tr>
<tr>
<td>Series KQ</td>
<td>Black</td>
<td>Blue</td>
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Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water (2)</th>
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<tbody>
<tr>
<td>Operating pressure range (1)</td>
<td>–100 kPa to 1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>3 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–5 to 60°C, Water: 0 to 40°C (No freezing)</td>
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</tbody>
</table>

Note 2) The surge pressure must be under the maximum operating pressure.
Note 3) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

<table>
<thead>
<tr>
<th>Principal Parts</th>
<th>Material</th>
</tr>
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<tbody>
<tr>
<td>Body</td>
<td>C3604, PBT</td>
</tr>
<tr>
<td>Stud</td>
<td>C3604 (Thread portion)</td>
</tr>
<tr>
<td>Chuck</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>Guide</td>
<td>Stainless steel 304, C3604, PBT</td>
</tr>
<tr>
<td>Collet, Release button</td>
<td>POM</td>
</tr>
<tr>
<td>Seal, O-Ring</td>
<td>NBR</td>
</tr>
<tr>
<td>Gasket</td>
<td>Stainless steel 304, NBR</td>
</tr>
</tbody>
</table>
Metric-size Uni One-touch Fittings  **Series KQ2**

### Model

- **Hex. socket head male connector**
  - KQ2S  P. 89
  - Internal hex. allows thread connection by using an allen wrench for confined spaces.

- **45° male elbow**
  - KQ2K  P. 89
  - Use to pipe in 45° direction from female thread. Model in-between of male connector and male elbow.

- **Male connector**
  - KQ2H  P. 86
  - Use to pipe in the same direction from female thread. Most general style.

- **Branch "Y"**
  - KQ2U  P. 88
  - Use to branch line in the same direction from female thread.

- **Universal male elbow**
  - KQ2V  P. 89
  - Universal male elbow allows thread connection by using a socket wrench for confined spaces.

- **Extended male elbow**
  - KQ2W  P. 88
  - Basically, it is used together with male elbow. Different point is that it is used for fittings to avoid interfering with each other by making the piping two-level.

- **Male elbow**
  - KQ2L  P. 86
  - Use to pipe at right angles to female thread. Most general style.

- **Male run tee**
  - KQ2Y  P. 87
  - Use to branch line in the same direction from female thread and in 90° direction.

- **Male branch tee**
  - KQ2T  P. 87
  - Use to branch line from female thread in both 90° directions.

### How to Order

- **KQ2**
  - **H06**
  - **U01**
  - One-touch fittings

### How to Order Gasket

- **KQG**
  - **U01**
  - Gasket for Uni One-touch fittings

### Made to Order

Refer to page 90 for details.

### Table

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<tr>
<th>Model</th>
<th>Port size</th>
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<td>L</td>
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## Series KQ2

### Male Connector: KQ2H

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* Reference dimensions after Uni thread installation. Note) Dimensions in () are the case of soft nylon tubing.

### Male Elbow: KQ2L

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* Reference dimensions after Uni thread installation. Note 1) aD1: Max. diameter
Note 2) Dimensions in () are the case of soft nylon tubing.
## Male Branch Tee: KQ2T

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### Notes
- Reference dimensions after Uni thread installation.
- Note 1) øD1: Max. diameter
- Note 2) Dimensions in ( ) are the case of soft nylon tubing.
### Series KQ2

#### Branch “Y”: KQ2U

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* Reference dimensions after Uni thread installation.

#### Extended Male Elbow: KQ2W

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<th>M</th>
<th>Effective area (mm²)</th>
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* Reference dimensions after Uni thread installation.

Note 1) øD: Max. diameter
### Hexagon Socket Head Male Connector: KQ2S

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* Reference dimensions after Uni thread installation. Note) øD: Max. diameter

### 45° Male Elbow: KQ2K

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<th>Model</th>
<th>Model</th>
<th>H (width across flats)</th>
<th>A*</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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<td>¼</td>
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* Reference dimensions after Uni thread installation. Note) øD: Max. diameter

### Universal Male Elbow: KQ2V

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<th>Connection thread (tubing O.D.)</th>
<th>Model</th>
<th>Model</th>
<th>H (width across flats)</th>
<th>A*</th>
<th>M</th>
<th>Effective area (mm²)</th>
<th>Mass (g)</th>
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<td>2.9</td>
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<td>¼</td>
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<td>31.5</td>
<td>30.5</td>
<td>2.9</td>
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</table>

* Reference dimensions after Uni thread installation. Note) øD: Max. diameter
Series KQ2
Made to Order Specifications
Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
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<tbody>
<tr>
<td>X17</td>
<td>Grease-free</td>
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<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
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<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td>X29</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X39</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Clean (Copper-free, air blow, double package, resin body: white)</td>
</tr>
</tbody>
</table>

2 Other Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
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</thead>
<tbody>
<tr>
<td>X2</td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X12</td>
<td>Lubricant: White Vaseline</td>
</tr>
<tr>
<td></td>
<td>Release button color: White</td>
</tr>
<tr>
<td>X41</td>
<td>With fixed throttle Note)</td>
</tr>
</tbody>
</table>

Note) Compatible with male connector and male elbow only
Consult SMC separately for the available fixed throttle diameters.

Spare Parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
<th>Applicable thread</th>
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<tbody>
<tr>
<td>Gasket</td>
<td>KQG-U01</td>
<td>Uni 1/8</td>
</tr>
<tr>
<td></td>
<td>KQG-U02</td>
<td>Uni 1/4</td>
</tr>
<tr>
<td></td>
<td>KQG-U03</td>
<td>Uni 3/8</td>
</tr>
<tr>
<td></td>
<td>KQG-U04</td>
<td>Uni 1/2</td>
</tr>
</tbody>
</table>
New-stand male thread for piping that reduces the screw-in time by 1/3.

Uni thread ridge shape
A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamfer of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

The male thread for piping drastically cuts piping man-hours.

Applicable Tubing

<table>
<thead>
<tr>
<th>Tubing material</th>
<th>FEP, PFA, Nylon, Soft nylon (1), Polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing O.D.</td>
<td>ø 1/8, ø 5/32, ø 3/16, ø 7/32, ø 1/2, ø 5/16</td>
</tr>
</tbody>
</table>

Note 1) Soft nylon tubing is not compatible with water.

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Water (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range (2)</td>
<td>–100 kPa to 1 MPa</td>
</tr>
<tr>
<td>Proof pressure</td>
<td>3 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>–5 to 60°C, Water: 0 to 40°C (No freezing)</td>
</tr>
</tbody>
</table>

Note 2) The surge pressure must be under the maximum operating pressure.

Note 3) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

<table>
<thead>
<tr>
<th>Body</th>
<th>C3604, PBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stud</td>
<td>C3604 (Thread portion)</td>
</tr>
<tr>
<td>Chuck</td>
<td>Stainless steel 304</td>
</tr>
<tr>
<td>Guide</td>
<td>Stainless steel 304, C3604, PBT</td>
</tr>
<tr>
<td>Collet, Release button</td>
<td>POM</td>
</tr>
<tr>
<td>Seal, O-ring</td>
<td>NBR</td>
</tr>
<tr>
<td>Gasket</td>
<td>Stainless steel 304, NBR</td>
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</tbody>
</table>

Made to Order
Refer to page 97 for details.
Inch-size Uni One-touch Fittings **Series KQ2**

### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tbody>
<tr>
<td>Male connector</td>
<td>KQ2H Use to pipe in the same direction from female thread. Most general style.</td>
</tr>
<tr>
<td>Male elbow</td>
<td>KQ2L Use to pipe at right angles to female thread. Most general style.</td>
</tr>
<tr>
<td>Male branch tee</td>
<td>KQ2T Use to branch line from female thread in both 90° directions.</td>
</tr>
<tr>
<td>Male run tee</td>
<td>KQ2Y Use to branch line in the same direction from female thread and in 90° direction.</td>
</tr>
<tr>
<td>Branch &quot;Y&quot;</td>
<td>KQ2U Use to branch line in the same direction from female thread.</td>
</tr>
<tr>
<td>Extended male elbow</td>
<td>KQ2W 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.</td>
</tr>
</tbody>
</table>

### How to Order

**KQ 2 H 05 - U01**

- **Model**
  - **H**: Male connector
  - **L**: Male elbow
  - **W**: Extended male elbow
  - **T**: Male branch tee
  - **Y**: Male run tee
  - **U**: Branch "Y"

- **Applicable tubing O.D.**
  - 01: 1/16"
  - 03: 3/32"
  - 05: 1/8"
  - 07: 5/32"
  - 09: 3/16"
  - 11: 1/4"
  - 13: 5/32"

### How to Order Gasket

**KQG - U01**

- **Gasket for Uni One-touch fittings**
  - **Applicable port size**
    - U01: Uni 1/8
    - U02: Uni 1/4
    - U03: Uni 3/8
    - U04: Uni 1/2
**Series KQ2**

### Male Connector: KQ2H

<table>
<thead>
<tr>
<th>Applicable tubing O.D (inch)</th>
<th>Connection thread</th>
<th>Model</th>
<th>H (Width across flats)</th>
<th>L</th>
<th>A *</th>
<th>M</th>
<th>Min. port size</th>
<th>Mass (g)</th>
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<tbody>
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<td>KQ2H01-U01</td>
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<td>18.5</td>
<td>13.5</td>
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<td>7</td>
</tr>
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<td>1/4</td>
<td>1/8</td>
<td>KQ2H01-U02</td>
<td>14.29</td>
<td>16</td>
<td>10</td>
<td>10</td>
<td>3</td>
<td>9</td>
</tr>
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<td>5/32</td>
<td>1/8</td>
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<td>1/8</td>
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*Reference dimensions after Uni thread installation.

### Male Elbow: KQ2L

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<th>Connection thread</th>
<th>Model</th>
<th>H (Width across flats)</th>
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<th>L2</th>
<th>A</th>
<th>M</th>
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<th>Mass (g)</th>
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### Series KQ2

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Series KQ2
Made to Order Specifications

Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

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<th>Symbol</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>X17</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td>X29</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X39</td>
<td>Grease-free</td>
</tr>
<tr>
<td></td>
<td>Rubber material: NBR (With fluorine coating)</td>
</tr>
<tr>
<td></td>
<td>Release button color: Light blue</td>
</tr>
<tr>
<td></td>
<td>Clean (Copper-free, air blow, double package, resin body: white)</td>
</tr>
</tbody>
</table>

2 Other Specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Specifications</th>
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</thead>
<tbody>
<tr>
<td>X2</td>
<td>Copper-free (With electroless nickel plated)</td>
</tr>
<tr>
<td>X12</td>
<td>Lubricant: White Vaseline</td>
</tr>
<tr>
<td></td>
<td>Release button color: White</td>
</tr>
<tr>
<td>X41</td>
<td>With fixed throttle (Note)</td>
</tr>
</tbody>
</table>

Note) Compatible with male connector and male elbow only
Consult SMC separately for the available fixed throttle diameters.

Spare Parts

<table>
<thead>
<tr>
<th>Description</th>
<th>Part no.</th>
<th>Applicable thread</th>
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</thead>
<tbody>
<tr>
<td>Gasket</td>
<td>KQG-U01</td>
<td>Uni 1/8</td>
</tr>
<tr>
<td></td>
<td>KQG-U02</td>
<td>Uni 1/4</td>
</tr>
<tr>
<td></td>
<td>KQG-U03</td>
<td>Uni 3/8</td>
</tr>
<tr>
<td></td>
<td>KQG-U04</td>
<td>Uni 1/2</td>
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