# Fittings & Tubing

## Series Variations

### Fittings

**One-touch connection and release**
Possible to use in vacuum to −100 kPa

<table>
<thead>
<tr>
<th>Sealant/Gasket seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric size tube/M, R, Rc thread connection</td>
</tr>
</tbody>
</table>

**One-touch Fittings**

**KQ2 Series**

<table>
<thead>
<tr>
<th>Face seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric size tube/G thread connection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One-touch Fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KQ2 Series</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sealant/Gasket seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch-size tube/UNF, NPT thread connection</td>
</tr>
</tbody>
</table>

**One-touch Fittings**

**KQ2 Series**

<table>
<thead>
<tr>
<th>Face seal</th>
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<td>Inch-size/NPT thread connection</td>
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**One-touch Fittings**

**KQ2 Series**

<table>
<thead>
<tr>
<th>Face seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch-size/R thread connection</td>
</tr>
</tbody>
</table>

**One-touch Fittings**

**KQ2 Series**

---

**Applicable tubing O.D.**

<table>
<thead>
<tr>
<th>(mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø2</td>
</tr>
<tr>
<td>ø3.2</td>
</tr>
<tr>
<td>ø4</td>
</tr>
<tr>
<td>ø6</td>
</tr>
<tr>
<td>ø8</td>
</tr>
<tr>
<td>ø10</td>
</tr>
<tr>
<td>ø12</td>
</tr>
<tr>
<td>ø16</td>
</tr>
</tbody>
</table>

**Applicable tubing O.D.**

<table>
<thead>
<tr>
<th>(inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø1/16</td>
</tr>
<tr>
<td>ø1/8</td>
</tr>
<tr>
<td>ø5/32</td>
</tr>
<tr>
<td>ø3/16</td>
</tr>
<tr>
<td>ø5/16</td>
</tr>
<tr>
<td>ø1/4</td>
</tr>
<tr>
<td>ø3/8</td>
</tr>
<tr>
<td>ø1/2</td>
</tr>
</tbody>
</table>

---

**Metric size tube/R, Rc thread connection**

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**Sealant/Gasket seal**

**With seal**

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**Page**

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**Option**
Fittings

Uni One-touch Fittings
KQ2 Series

Male thread for piping that drastically reduces the screw-in time

Body material: Brass (nickel plated), Stainless steel 316
Release button: Stainless steel 304

Metal One-touch Fittings
KQB2 Series

Applicable tubing—Metric size  M, R, Rc thread connection

Applicable tubing material

FEP
PFA
Nylon
Soft nylon
Polyurethane

FEP
PFA
Nylon
Soft nylon
Polyurethane

FEP
PFA
Nylon
Soft nylon
Polyurethane

FEP
PFA
Nylon
Soft nylon
Polyurethane

Metal One-touch Fittings
KQB2 Series

Applicable tubing—Inch size  UNF, NPT thread connection

Applicable tubing O.D. (mm)

Unions

Applicable tubing O.D. (inch)

Unions

Applicable tubing O.D. (inch)

Low-torque rotation type

Rotary One-touch Fittings
KS Series (Standard)
KX Series (High speed)

Applicable tubing—Metric size

Applicable tubing O.D. (mm)

Unions

Applicable tubing O.D. (inch)

Unions

Applicable tubing O.D. (inch)
Fittings & Tubing

Series Variations

Fittings

Low-torque rotation type

Rotary One-touch Fittings
KS Series (Standard)

Applicable tubing—Inch size UNF, NPT thread connection

One-touch connection and release
Compact manifold piping possible

One-touch Fittings Manifold
KM Series

Applicable tubing—Metric size

One-touch connection and release
Compact manifold piping possible

One-touch Fittings Manifold
KM Series

Applicable tubing—Inch size NPT thread connection

Possible to use in vacuum to 1.0 MPa

Insert Fittings
KF Series

Applicable tubing—Metric size For ø2 tube

Compact and non-tool connection

Miniature Fittings
M Series

Applicable tubing—Metric size

Applicable for use on soft copper steel pipe

Self-align Fittings
H/DL/L/LL Series

Applicable tubing—Metric size

One-touch connection and release
Built-in self-seal mechanism

Self-seal Fittings
KC Series

Applicable tubing—Metric size
Fittings

Compact with large flow rate
S Couplers
KK Series

Super high impact PBT
S Couplers
KKH Series

Metal body/Energy saving
S Couplers
KK130 Series

Multi-connector
DM Series
Applicable tubing—Metric size
One-touch installation and removal of multi-tubes

Multi-connector with One-touch fittings
DMK Series
Applicable tubing—Metric size
One-touch installation and removal of multi-tubes

Rectangular Multi-connector
KDM Series
Applicable tubing—Metric size
Made to Order

Rectangular Multi-connector
KDM Series
Applicable tubing—Inch size
One-touch installation and removal of multi-tubes
**Fittings & Tubing**

**Series Variations**

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**Fittings**

- **General Purpose Fittings Series**
  - **Centralized distribution of supply air**
  - **For use where weld spatter is generated. Flame resistant material UL-94 standard V-0**

- **Piping Module KB Series**
  - Applicable tubing—Metric size

- **FR One-touch Fittings KR-W2 Series**
  - Applicable tubing—Metric size
  - For use where weld spatter is generated. Flame resistant material UL-94 standard V-0

- **FR One-touch Fittings Manifold KRM Series**
  - Applicable tubing—Metric size
  - For preventing static electricity

- **Antistatic One-touch Fittings KA Series**
  - All stainless steel 316 except seal parts

- **Stainless Steel 316 One-touch Fittings KQG2 Series**
  - Applicable tubing—Metric size M, R, Rc thread connection

- **Stainless Steel 316 One-touch Fittings KQG2 Series**
  - All stainless steel 316 except seal parts

- **Stainless One-touch Fittings KG Series**
  - Applicable tubing—Metric size

---

**Applicable tubing material**

- FEP
- PFA
- Nylon
- Soft nylon
- Polyurethane

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (mm)</th>
<th>With seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø3.2</td>
<td>ø4</td>
</tr>
</tbody>
</table>

---

**FR One-touch Fittings KR-W2 Series**

<table>
<thead>
<tr>
<th>Union</th>
<th>o10</th>
<th>o12</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>Soft nylon</td>
<td>FR double layer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Applicable tubing O.D. (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø1/8</td>
</tr>
</tbody>
</table>

---

**FR One-touch Fittings Manifold KRM Series**

<table>
<thead>
<tr>
<th>Union</th>
<th>M5</th>
<th>M6</th>
<th>M8</th>
</tr>
</thead>
<tbody>
<tr>
<td>FR</td>
<td>Soft nylon</td>
<td>FR double layer</td>
<td></td>
</tr>
</tbody>
</table>

**Antistatic One-touch Fittings KA Series**

<table>
<thead>
<tr>
<th>Union</th>
<th>M5</th>
<th>M6</th>
<th>M8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antistatic soft nylon</td>
<td>Antistatic polyurethane</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

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

<table>
<thead>
<tr>
<th>Union</th>
<th>10-32</th>
<th>UNF</th>
<th>ø1/8</th>
<th>ø1/4</th>
<th>ø5/32</th>
<th>ø3/32</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNF</td>
<td>PFA</td>
<td>Nylon</td>
<td>Soft nylon</td>
<td>Polyurethane</td>
<td>Polyolefin</td>
<td></td>
</tr>
</tbody>
</table>

---

**Stainless One-touch Fittings KG Series**

<table>
<thead>
<tr>
<th>Union</th>
<th>M5</th>
<th>M6</th>
<th>M8</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEP</td>
<td>PFA</td>
<td>Nylon</td>
<td>Soft nylon</td>
</tr>
</tbody>
</table>

---

**Applicable tubing O.D. (mm)**

<table>
<thead>
<tr>
<th>Union</th>
<th>ø3.2</th>
<th>ø4</th>
<th>ø6</th>
<th>ø8</th>
<th>ø10</th>
<th>ø12</th>
<th>ø16</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M6</td>
<td>M8</td>
<td>M10</td>
<td>M12</td>
<td>M16</td>
<td>M20</td>
<td>M25</td>
</tr>
</tbody>
</table>
**Fittings Series for Special Environments**

**Stainless Steel 316 Insert Fittings**  
**KFG2 Series**
- Applicable tubing—Metric size  
- R, Rc thread connection

**Stainless Steel 316 Insert Fittings**  
**KFG2 Series**
- Applicable tubing—Inch size  
- NPT thread connection

**Miniature Fittings**  
**MS Series**
- Applicable tubing—Metric size

**S Couplers Stainless Steel Type**  
**KKA Series**
- Body material: Stainless steel 304

Rubber material is not used. All stainless steel 316 (Except swivel elbow)

Applicable tubing O.D. (mm):
- ø4, ø6, ø8, ø10, ø12, ø16

Applicable tubing O.D. (inch):
- 1/8, 1/4, 3/16, 1/2

Plug
- Male thread type
- Female thread type

Socket
- Male thread type
- Female thread type

With seal

Electroless nickel plated

Applicable tubing material:
- FEP
- PFA
- Modified PTFE
- Nylon
- Soft nylon
- Polyurethane
- Soft polyurethane
- Polyethylene
- Soft polyethylene
- Antistatic soft nylon
- Antistatic polyurethane
- Hard polyurethane

For use in corrosive environments  
Stainless steel 316
Fittings & Tubing

Series Variations

Fittings

For use in clean room blowing

Clean One-touch Fittings

KP Series

For driving air piping in clean room

Clean One-touch Fittings

KPQ/KPG Series

Applicable tubing material

<table>
<thead>
<tr>
<th>Material: NEW PFA</th>
</tr>
</thead>
</table>

Fluoropolymer Fittings

Hyper Fitting

LQ1 Series

Material: NEW PFA

Fluoropolymer Fittings

Hyper Fitting/Flare Type

LQ3 Series

Material: NEW PFA

Fluoropolymer Bore Through Connector

LQHB Series

Air supply to rotary/pivot shafts of turntables and robot arms

Low Torque

Rotary Joint

MQR Series

Rubber Seal Rotary Joint

For details, refer to the Web Catalog or the Pneumatic Clean Series (CAT.E02-23).
### Tubing

**General tubing 1.5 MPa max. at 20°C**

**Nylon Tubing**  
**T Series**

**Slightly flexible 1.0 MPa max. at 20°C**

**Soft Nylon Tubing**  
**TS Series**

**Flexible 0.8 MPa max. at 20°C**

**Polyurethane Tubing**  
**TU Series**

Multi-core, Multi-color Specification Flat Tubing

<table>
<thead>
<tr>
<th>Tubing O.D.</th>
<th>ø2 to ø12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black, White, Red, Blue, Yellow, Green, Translucent, Orange</td>
</tr>
<tr>
<td>Number of cores</td>
<td>2 to 6</td>
</tr>
</tbody>
</table>

**Extremely flexible 0.6 MPa max. at 20°C**

**Soft Polyurethane Tubing**  
**TUS Series**

Multi-core, Multi-color Specification Flat Tubing

<table>
<thead>
<tr>
<th>Tubing O.D.</th>
<th>ø4 to ø12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Black, White, Red, Blue, Yellow, Green, Translucent, Yellow brown</td>
</tr>
<tr>
<td>Number of cores</td>
<td>2 to 5</td>
</tr>
</tbody>
</table>

0.8 MPa standard type, 1.0 MPa for high pressure type

**Hard Polyurethane Tubing**  
**TUH Series**

**Improved abrasion resistance**

**Wear Resistant Tubing**  
**TUZ Series**

Multi-core, Multi-color Specification Flat Tubing

<table>
<thead>
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<tbody>
<tr>
<td>Color</td>
<td>Black, White, Red, Blue, Yellow, Green</td>
</tr>
<tr>
<td>Number of cores</td>
<td>2 to 6</td>
</tr>
</tbody>
</table>
### Tubing

#### Polyurethane Coil Tubing
**TCU Series**
- For flexible and moving applications

#### Polyurethane Flat Tubing
**TFU Series**
- Compact piping
- Use in spatter generating atmosphere
- Flame resistant material

#### FR Soft Nylon Tubing
**TRS Series**
- Flame resistance (Equivalent to UL-94 standard V-0)

#### FR Double Layer Tubing
**TRB Series**
- Flame resistance (Equivalent to UL-94 standard V-0)
- The outer layer for double layer tubing, Series TRB, TRBU is peeled off easily

#### FR Double Layer Polyurethane Tubing
**TRBU Series**
- Flame resistance (Equivalent to UL-94 standard V-0)

#### Double Layer Tube Stripper
**TKS Series**
- The outer layer for double layer tubing, Series TRB, TRBU is peeled off easily

#### FR Three-layer Polyurethane Tubing
**TRTU Series**
- Flame resistance (Equivalent to UL-94 standard V-0)

#### 2-Layer Soft Fluoropolymer Tubing
**TQ Series**
- Translucent
- Compatible with the Food Sanitation Law and dissolution test approved by FDA

#### Antistatic Tubing
**TA Series**
- For preventing static electricity

#### Fluoropolymer Tubing
**TL Series**
- Material: Super PFA
- Translucent

#### Fluoropolymer Tubing (PFA)
**TLM Series**
- Material: PFA
- Translucent

#### FEP Tubing (Fluoropolymer)
**TH Series**
- Compatible with the Food Sanitation Law and dissolution test approved by FDA

### Tubing O.D. Table

<table>
<thead>
<tr>
<th>Color</th>
<th>Metric size (mm)</th>
<th>Inch size (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 core</td>
<td>a1, a3</td>
<td>1/16, 1/8</td>
</tr>
<tr>
<td>2 cores</td>
<td>a5, a7, a11</td>
<td>1/8, 5/32, 3/16</td>
</tr>
<tr>
<td>3 cores</td>
<td>a11, a13</td>
<td>5/16, 1/4</td>
</tr>
<tr>
<td>4 cores</td>
<td>a19, a23</td>
<td>3/8, 1/2</td>
</tr>
<tr>
<td>5 cores</td>
<td>a25, a29</td>
<td>11/32, 1/2</td>
</tr>
</tbody>
</table>

### Tubing Color Chart

- Black
- White
- Red
- Blue
- Yellow
- Green
- Orange
- Translucent

---

**Fittings & Tubing**

**Series Variations**

---

**Page Color**

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### Best Pneumatics

#### Series Variations

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<td></td>
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<tr>
<td>TM Series</td>
<td>530</td>
</tr>
<tr>
<td>Multi-holder</td>
<td></td>
</tr>
<tr>
<td>TMA Series</td>
<td>531</td>
</tr>
<tr>
<td>Tube Cutter</td>
<td></td>
</tr>
<tr>
<td>TK Series</td>
<td>532</td>
</tr>
<tr>
<td>Tube Releasing Tool</td>
<td></td>
</tr>
<tr>
<td>TG Series</td>
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<tr>
<td>Tube Stand &amp; Tube Reel</td>
<td></td>
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<tr>
<td>TB/TBR Series</td>
<td>534</td>
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<tr>
<td><strong>Clean Series Tubing</strong></td>
<td></td>
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<tr>
<td>Polyurethane Tubing</td>
<td></td>
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<tr>
<td>10-TU Series</td>
<td>515</td>
</tr>
<tr>
<td>Polyurethane Coil Tubing</td>
<td></td>
</tr>
<tr>
<td>10-TCU Series</td>
<td></td>
</tr>
<tr>
<td>Polyurethane Flat Tubing</td>
<td></td>
</tr>
<tr>
<td>10-TFU Series</td>
<td></td>
</tr>
<tr>
<td>Polyolefin Tubing</td>
<td></td>
</tr>
<tr>
<td>TPH Series</td>
<td>516</td>
</tr>
<tr>
<td>Soft Polyolefin Tubing</td>
<td></td>
</tr>
<tr>
<td>TPS Series</td>
<td></td>
</tr>
<tr>
<td>Moisture Control Tube</td>
<td></td>
</tr>
<tr>
<td>IDK Series</td>
<td>519</td>
</tr>
<tr>
<td><strong>Tubing</strong></td>
<td></td>
</tr>
<tr>
<td>Soft Fluoropolymer Tubing</td>
<td></td>
</tr>
<tr>
<td>TD Series</td>
<td>509</td>
</tr>
<tr>
<td>Flexible 0.8 MPa max. at 20 °C</td>
<td></td>
</tr>
<tr>
<td>Polyurethane Tubing</td>
<td></td>
</tr>
<tr>
<td>10-TU Series</td>
<td>515</td>
</tr>
<tr>
<td>Polyurethane Coil Tubing</td>
<td></td>
</tr>
<tr>
<td>10-TCU Series</td>
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<td>Polyurethane Flat Tubing</td>
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<td>Moisture Control Tube</td>
<td></td>
</tr>
<tr>
<td>IDK Series</td>
<td>519</td>
</tr>
</tbody>
</table>

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**Related Products**

- **Multi-tube Holder**
  - **TM Series**

- **Multi-holder**
  - **TMA Series**

- **Tube Cutter**
  - **TK Series**

- **Tube Releasing Tool**
  - **TG Series**

- **Tube Stand & Tube Reel**
  - **TB/TBR Series**

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**Clean Series Tubing**

- **Polyurethane Tubing**
  - **10-TU Series**

- **Polyurethane Coil Tubing**
  - **10-TCU Series**

- **Polyurethane Flat Tubing**
  - **10-TFU Series**

- **Polyolefin Tubing**
  - **TPH Series**

- **Soft Polyolefin Tubing**
  - **TPS Series**

- **Moisture Control Tube**
  - **IDK Series**

---

**Tubing**

- **Soft Fluoropolymer Tubing (Modified PTFE)**
  - **TD Series**

- **Flexible 0.8 MPa max. at 20 °C**

---

**Series Variations**

- **Related Products**
- **Clean Series Tubing**
- **Tubing**

---

**Related Products**

- **Multi-tube Holder**
- **TM Series**

- **Multi-holder**
- **TMA Series**

- **Tube Cutter**
- **TK Series**

- **Tube Releasing Tool**
- **TG Series**

- **Tube Stand & Tube Reel**
- **TB/TBR Series**

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**Clean Series Tubing**

- **Polyurethane Tubing**
- **10-TU Series**

- **Polyurethane Coil Tubing**
- **10-TCU Series**

- **Polyurethane Flat Tubing**
- **10-TFU Series**

- **Polyolefin Tubing**
- **TPH Series**

- **Soft Polyolefin Tubing**
- **TPS Series**

- **Moisture Control Tube**
- **IDK Series**

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**Tubing**

- **Soft Fluoropolymer Tubing (Modified PTFE)**
- **TD Series**