

# One-touch Fittings

## Series KQ2

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

### How to Order

**KQ 2 H 06 01 S**

**One-touch fittings**

**Product's color**

| Symbol | Body  | Release button |
|--------|-------|----------------|
| 2      | White | Light gray     |
| Nil    | Black | Blue           |

**Applicable tubing O.D.**

| Symbol | O.D. |
|--------|------|
| 23     | ø3.2 |
| 04     | ø4   |
| 06     | ø6   |
| 08     | ø8   |
| 10     | ø10  |
| 12     | ø12  |
| 16     | ø16  |

**Port size/Applicable tubing O.D.**

| Thread connection | Port size        | Applicable tubing O.D.             |
|-------------------|------------------|------------------------------------|
| M5                | M5 x 0.8         |                                    |
| M6                | M6 x 1.0         |                                    |
| 01                | R 1/8, Rc 1/8    |                                    |
| 02                | R 1/4, Rc 1/4    |                                    |
| 03                | R 3/8, Rc 3/8    |                                    |
| 04                | R 1/2, Rc 1/2    |                                    |
| 00                | Same dia. tubing |                                    |
| 04                | ø4               | (Reducer)<br>Different dia. tubing |
| 06                | ø6               |                                    |
| 08                | ø8               |                                    |
| 10                | ø10              |                                    |
| 12                | ø12              |                                    |
| 16                | ø16              |                                    |
| 99                | Same dia. rod    |                                    |

**With thread seal**

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

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

#### Model

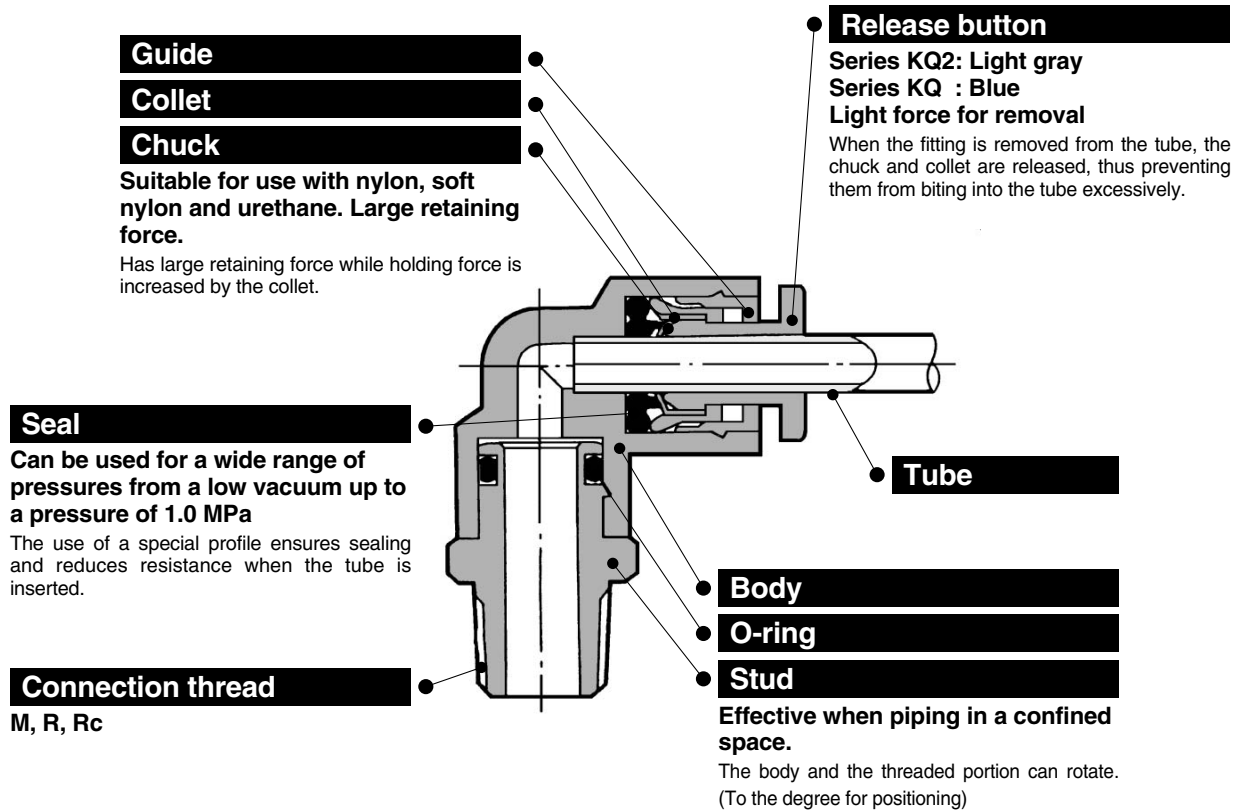
|    |                                          |    |                                 |
|----|------------------------------------------|----|---------------------------------|
| H  | Male connector                           | T  | Male branch tee                 |
|    | Straight union                           |    | Union tee                       |
|    | Different diameter straight              |    | Different diameter tee * (Note) |
| S  | Hex. socket head male connector          | TW | Cross*                          |
| F  | Female connector                         | TX | Different diameter cross*       |
|    | Male elbow                               | TY | Different diameter cross*       |
| L  | Union elbow                              | Y  | Male run tee                    |
|    | Plug-in elbow                            |    | Male delta union                |
|    | Reducer elbow                            | D  | Delta union                     |
| LU | Male branch connector                    |    | Branch                          |
|    | Branch union elbow                       | U  | Union "Y"                       |
| K  | 45° male elbow                           |    | Different dia. union "Y"        |
| V  | Universal male elbow                     |    | Plug-in "Y"                     |
| VS | Hexagon socket head universal male elbow | UD | Delta branch                    |
| VF | Universal female elbow                   |    | Different dia. double union "Y" |
| LF | Female elbow                             | XD | Double plug-in "Y"              |
| VD | Double universal male elbow              | X  | Different diameter plug-in "Y"  |
| VT | Triple universal male elbow              | R  | Plug-in reducer                 |
| Z  | Branch universal male elbow              |    | Bulkhead union                  |
| ZF | Branch universal female elbow            | E  | Bulkhead connector              |
| ZD | Double branch universal male elbow       | LE | Bulkhead male elbow             |
| ZT | Triple branch universal male elbow       |    |                                 |
| W  | Extended plug-in elbow                   |    |                                 |
|    | Extended male elbow                      |    |                                 |

| Accessory |                |
|-----------|----------------|
| Symbol    | Name           |
| KQ2N      | Nipple         |
|           | Reducer nipple |
|           | Adaptor        |
| KQ2C      | Tube cap       |
| KQ2C      | Color cap      |
| KQ2P      | Plug (White)   |
| KQP       | Plug (Blue)    |

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

\* Available only for white color body.  
Note) KQT06-04, KQT08-06, KQT10-08, and KQT12-10 are available as made to order.

Series KQ2: White body  
Series KQ : Black body



PAT.

**One-touch IN/OUT connection.**  
**Possible to use in vacuum to -100 kPa**

• **Applications for metric size tubing**

• **Applicable tubing material—Nylon, Soft nylon, Polyurethane**

## Applicable Tubing

|                 |                                 |
|-----------------|---------------------------------|
| Tubing material | Nylon, Soft nylon, Polyurethane |
| Tubing O.D.     | ø3.2, ø4, ø6, ø8, ø10, ø12, ø16 |

## Product's Color

| Series     | Body  | Release button |
|------------|-------|----------------|
| Series KQ2 | White | Light gray     |
| Series KQ  | Black | Blue           |

## Specifications

|                               |                                            |                                                                                   |
|-------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------|
| Fluid                         | Air/Water <sup>Note)</sup>                 |                                                                                   |
| Maximum operating pressure    | 1.0 MPa                                    |                                                                                   |
| Operating vacuum pressure     | -100 kPa                                   |                                                                                   |
| Proof pressure                | 3.0 MPa                                    |                                                                                   |
| Ambient and fluid temperature | -5 to 60°C, Water: 0 to 40°C (No freezing) |                                                                                   |
| Thread                        | Mounting section                           | JIS B 0203 (Taper thread for piping)<br>JIS B 0209 Class 2 (Metric coarse thread) |
|                               | Nut section                                | JIS B 0211 Class 2 (Metric fine thread)                                           |
| Seal (Thread portion)         |                                            | With seal or none                                                                 |

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

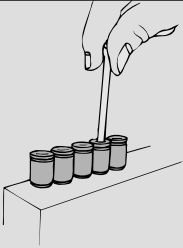
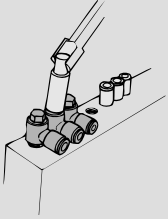
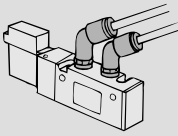
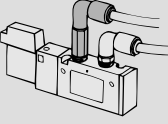
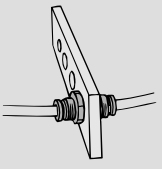
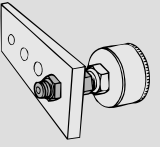
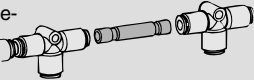
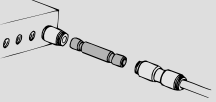
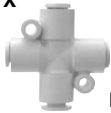
## Principal Parts Material

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



P. 15-2-30

# Series KQ2

| Model                                  |       |                                                                                                                                                                                |                                                                                       |
|----------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Hex. socket head male connector</b> |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2S</b>                            | P. 14 | Internal hex. allows thread connection by using an allen wrench for confined spaces.                                                                                           |      |
| <b>Universal male elbow</b>            |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2V</b>                            | P. 17 | Universal male elbow allows thread connection by using a socket wrench for confined spaces.                                                                                    |    |
| <b>45° male elbow</b>                  |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2K</b>                            | P. 16 | Use to pipe in 45° direction from female thread. Model in-between of male connector and male elbow.                                                                            |      |
| <b>Extended male elbow</b>             |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2W</b>                            | P. 22 | 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. |    |
| <b>Bulkhead union</b>                  |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2E</b>                            | P. 28 | Use to connect tubes through a panel.                                                                                                                                          |      |
| <b>Bulkhead connector</b>              |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2E</b>                            | P. 28 | Use to connect male thread and tube through a panel.                                                                                                                           |    |
| <b>Nipple</b>                          |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2N</b>                            | P. 29 | Use to connect One-touch fittings.                                                                                                                                             |    |
| <b>Reducer nipple</b>                  |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2N</b>                            | P. 29 | Use to connect One-touch fittings that are different tubing O.D.s.                                                                                                             |  |
| <b>Male connector</b>                  |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2H</b>                            | P. 14 | Use to pipe in the same direction from female thread. Most general style.                                                                                                      |    |
| <b>Male elbow</b>                      |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2L</b>                            | P. 15 | Use to pipe at right angles to female thread. Most general style.                                                                                                              |    |
| <b>Male branch tee</b>                 |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2T</b>                            | P. 22 | Use to branch line from female thread in both 90° directions.                                                                                                                  |  |
| <b>Female connector</b>                |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2F</b>                            | P. 14 | Use to pipe from male thread such as pressure gauge.                                                                                                                           |    |
| <b>Union elbow</b>                     |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2L</b>                            | P. 20 | Use to connect tubes at right angles.                                                                                                                                          |    |
| <b>Union tee</b>                       |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2T</b>                            | P. 23 | Use to connect tubes in both 90° directions.                                                                                                                                   |  |
| <b>Straight union</b>                  |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2H</b>                            | P. 15 | Use to connect tubes in the same direction.                                                                                                                                    |    |
| <b>Plug-in elbow</b>                   |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2L</b>                            | P. 21 | Use to change by 90° in a tube fetching from One-touch direction fittings.                                                                                                     |    |
| <b>Different diameter tee</b>          |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2T</b>                            | P. 23 | Use to connect tubes with size down in both 90° directions.                                                                                                                    |  |
| <b>Different diameter straight</b>     |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2H</b>                            | P. 15 | Use to connect different sized tubes.                                                                                                                                          |    |
| <b>Reducer elbow</b>                   |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2L</b>                            | P. 21 | Use to change by 90° in a tube fetching direction from One touch fittings and to size down.                                                                                    |    |
| <b>Different diameter tee</b>          |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2T</b>                            | P. 23 | Use to branch line with size down in both side 90° direction.                                                                                                                  |  |
| <b>Cross</b>                           |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2TW</b>                           | P. 23 | Use to four-branch line.                                                                                                                                                       |    |
| <b>Different diameter cross</b>        |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2TX</b>                           | P. 23 | Use to connect tubes with size down in all 90° directions.                                                                                                                     |    |
| <b>Different diameter cross</b>        |       |                                                                                                                                                                                |                                                                                       |
| <b>KQ2TY</b>                           | P. 24 | Use to branch line with size down in three directions.                                                                                                                         |  |

# Series KQ2

## Extended Male Elbow: KQ2W

<M5>



<R>



| Applicable tubing O.D. (mm) | Connection thread R | Model      | H (width across flats) | $\phi D1^{(1)}$ | $\phi D2$ | L1   | L2   | A*   | M    | Effective area <sup>(2)</sup> (mm <sup>2</sup> ) |          | Weight (g) |
|-----------------------------|---------------------|------------|------------------------|-----------------|-----------|------|------|------|------|--------------------------------------------------|----------|------------|
|                             |                     |            |                        |                 |           |      |      |      |      | Nylon                                            | Urethane |            |
| 3.2                         | M5 x 0.8            | KQ2W23-M5  | 8                      | 9.6             | 8         | 17.5 | 30   | 31   | 15.5 | 2.8                                              | 2.4      | 10         |
|                             | 1/8                 | KQ2W23-01S | 10                     |                 |           |      | 37   | 38   |      |                                                  |          | 19         |
|                             | 1/4                 | KQ2W23-02S | 14                     |                 |           |      | 43   | 42   |      |                                                  |          | 41         |
| 4                           | M5 x 0.8            | KQ2W04-M5  | 8                      | 10.4            | 8         | 18   | 30   | 32   | 16   | 3.0                                              | 3.0      | 11         |
|                             | 1/8                 | KQ2W04-01S | 10                     |                 |           |      | 37.5 | 38.5 |      |                                                  |          | 23         |
|                             | 1/4                 | KQ2W04-02S | 14                     |                 |           |      | 43.5 | 42.5 |      |                                                  |          | 38         |
| 6                           | M5 x 0.8            | KQ2W06-M5  | 8                      | 12.8            | 8         | 20   | 30.5 | 33.5 | 17   | 3                                                | 3        | 11         |
|                             | 1/8                 | KQ2W06-01S | 10                     |                 |           |      | 40   | 42.5 |      |                                                  |          | 26         |
|                             | 1/4                 | KQ2W06-02S | 14                     |                 |           |      | 46   | 46.5 |      | 10.9                                             | 8.6      | 41         |
| 8                           | 3/8                 | KQ2W06-03S | 17                     |                 |           |      | 48   | 48   |      |                                                  |          | 67         |
|                             | 1/8                 | KQ2W08-01S | 12                     | 15.2            | 12        | 23   | 43.5 | 47   | 18.5 | 20.5                                             | 14.2     | 30         |
|                             | 1/4                 | KQ2W08-02S | 14                     |                 |           |      | 49.5 | 51   |      |                                                  |          | 47         |
|                             | 3/8                 | KQ2W08-03S | 17                     |                 |           |      | 51.5 | 52.5 |      |                                                  |          | 74         |
| 10                          | 1/4                 | KQ2W10-02S | 17                     | 18.5            | 17        | 26.5 | 56.5 | 59.5 | 21   | 33.5                                             | 23.8     | 66         |
|                             | 3/8                 | KQ2W10-03S | 17                     |                 |           |      | 58.5 | 61   |      |                                                  |          | 76         |
|                             | 1/2                 | KQ2W10-04S | 22                     |                 |           |      | 65   | 66   |      |                                                  |          | 145        |
| 12                          | 1/4                 | KQ2W12-02S | 17                     | 20.9            | 17        | 28.5 | 57.5 | 62   | 22   | 47.7                                             | 37.7     | 68         |
|                             | 3/8                 | KQ2W12-03S | 17                     |                 |           |      | 59.5 | 63.5 |      |                                                  |          | 78         |
|                             | 1/2                 | KQ2W12-04S | 22                     |                 |           |      | 66   | 68.5 |      |                                                  |          | 147        |
| 16                          | 3/8                 | KQ2W16-03S | 22                     | 26.5            | 20.9      | 34   | 69.5 | 76   | 25   | 71                                               | (71)     | 101        |
|                             | 1/2                 | KQ2W16-04S | 22                     |                 |           |      | 75   | 80   |      | 100                                              | (84)     | 105        |

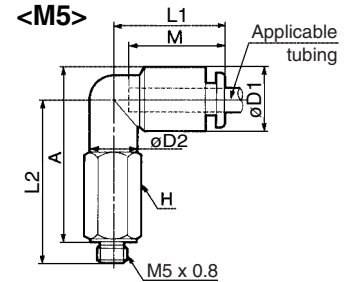


\* Reference dimensions after R thread installation.

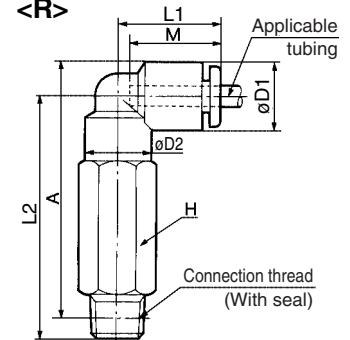
Note 1)  $\phi D$ : Max. diameter

Note 2) ( ): Values for soft nylon

<M5>



<R>



## Male Branch Tee: KQ2T

<M5>



<M6>



<R>



| Applicable tubing O.D. (mm) | Connection thread R | Model      | H (width across flats) | $\phi D1^{(1)}$ | $\phi D2$ | L1   | L2   | A*   | M    | Effective area <sup>(2)</sup> (mm <sup>2</sup> ) |          | Weight (g) |
|-----------------------------|---------------------|------------|------------------------|-----------------|-----------|------|------|------|------|--------------------------------------------------|----------|------------|
|                             |                     |            |                        |                 |           |      |      |      |      | Nylon                                            | Urethane |            |
| 3.2                         | M5 x 0.8            | KQ2T23-M5  | 7                      | 8.4             | —         | 15.3 | 13.2 | 14.3 | 12.7 | 3.2                                              | 2.7      | 3.2        |
|                             | 1/8                 | KQ2T23-01S | 10                     | 9.6             | 10        | 17.5 | 21.5 | 22.5 | 15.5 | 3.4                                              | 2.9      | 10         |
|                             | 1/4                 | KQ2T23-02S | 14                     |                 |           |      | 25.5 | 24.5 |      |                                                  |          | 20         |
| 4                           | M5 x 0.8            | KQ2T04-M5  | 7                      | 9.3             | —         | 15.6 | 13.7 | 15.3 | 12.7 | 4.5                                              | 4.5      | 3.5        |
|                             | M6 x 1.0            | KQ2T04-M6  | 8                      |                 |           |      | 14.7 | 15.3 |      |                                                  |          | 4.4        |
|                             | 1/8                 | KQ2T04-01S | 10                     |                 |           |      | 22   | 23   |      | 6.0                                              | 4.1      | 13         |
|                             | 1/4                 | KQ2T04-02S | 14                     |                 |           |      | 26   | 25   |      |                                                  |          | 19         |
| 6                           | M5 x 0.8            | KQ2T06-M5  | 7                      | 11.6            | —         | 16.1 | 14.7 | 17.4 | 13.5 | 4.5                                              | 4.5      | 4.4        |
|                             | M6 x 1.0            | KQ2T06-M6  | 8                      |                 |           |      | 15.7 | 15.7 |      |                                                  |          | 5.3        |
|                             | 1/8                 | KQ2T06-01S | 10                     |                 |           |      | 23   | 25.5 |      | 13.9                                             | 11.0     | 12         |
|                             | 1/4                 | KQ2T06-02S | 14                     |                 |           | 20   | 27   | 27.5 |      |                                                  |          | 20         |
| 8                           | 3/8                 | KQ2T06-03S | 17                     |                 |           |      | 29   | 29   |      |                                                  |          | 34         |
|                             | 1/8                 | KQ2T08-01S | 12                     | 15.2            | 12        | 23   | 24.5 | 28   | 18.5 | 26.3                                             | 18.2     | 14         |
|                             | 1/4                 | KQ2T08-02S | 14                     |                 |           |      | 28.5 | 30   |      |                                                  |          | 22         |
|                             | 3/8                 | KQ2T08-03S | 17                     |                 |           |      | 30.5 | 31.5 |      |                                                  |          | 36         |
| 10                          | 1/8                 | KQ2T10-01S | 17                     | 18.5            | 17        | 26.5 | 27   | 32   | 21   | 40.8                                             | 29.0     | 31         |
|                             | 1/4                 | KQ2T10-02S | 17                     |                 |           |      | 30   | 33   |      |                                                  |          | 29         |
|                             | 3/8                 | KQ2T10-03S | 17                     |                 |           |      | 32   | 34.5 |      |                                                  |          | 39         |
|                             | 1/2                 | KQ2T10-04S | 22                     |                 |           |      | 36   | 37   |      |                                                  |          | 66         |
| 12                          | 1/4                 | KQ2T12-02S | 17                     | 20.9            | 17        | 28.5 | 31   | 35.5 | 22   | 57.2                                             | 45.2     | 31         |
|                             | 3/8                 | KQ2T12-03S | 17                     |                 |           |      | 33   | 37   |      |                                                  |          | 41         |
|                             | 1/2                 | KQ2T12-04S | 22                     |                 |           |      | 37   | 39.5 |      |                                                  |          | 68         |
|                             | 3/8                 | KQ2T16-03S | 22                     | 26.5            | 20.9      | 34   | 38   | 44.5 | 25   | 71                                               | (71)     | 112        |
| 16                          | 1/2                 | KQ2T16-04S | 22                     |                 |           |      | 40.5 | 46   |      | 100                                              | (100)    | 116        |

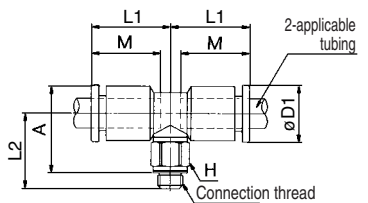


\* Reference dimensions after R thread installation.

Note 1)  $\phi D1$ : Max. diameter

Note 2) ( ): Values for soft nylon.

<M5, M6>



<R>

