

# 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.

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

Port size/Applicable tubing O.D.

| Thread connection |                  |                                    |
|-------------------|------------------|------------------------------------|
| 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

| 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*       |
| L  | Male elbow                               | TY | Different diameter cross*       |
|    | Union elbow                              | Y  | Male run tee                    |
|    | Plug-in elbow                            | D  | Male delta union                |
| LU | Male branch connector                    | U  | Branch                          |
|    | Branch union elbow                       |    | 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              | E  | Bulkhead union                  |
| ZF | Branch universal female elbow            |    | 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 |
|-------------------|-------|----------------|
| <b>Series KQ2</b> | White | Light gray     |
| <b>Series KQ</b>  | 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.

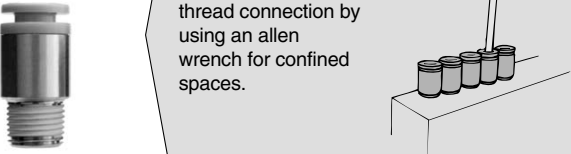
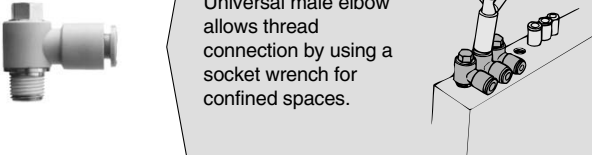
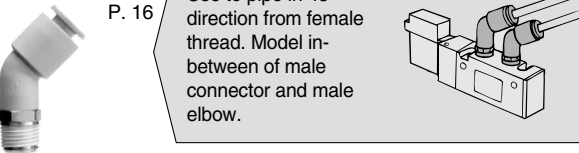
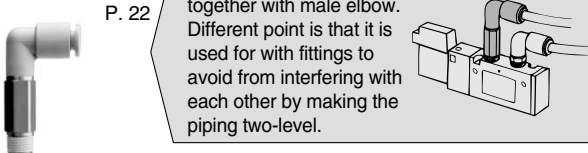
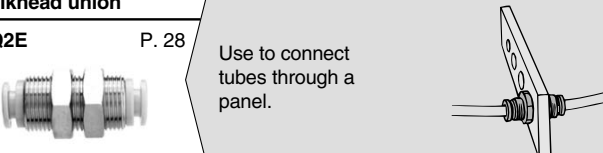
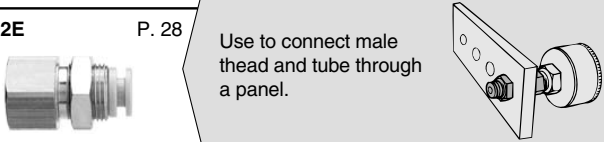
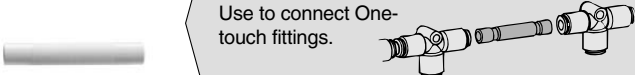
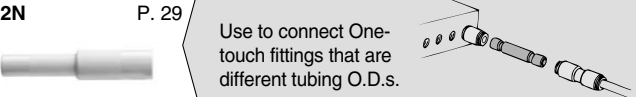
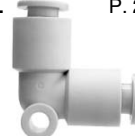
## Principal Parts Material

|                        |                                   |
|------------------------|-----------------------------------|
| 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

## Male Connector: KQ2H

<M5, M6>

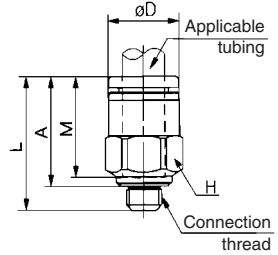


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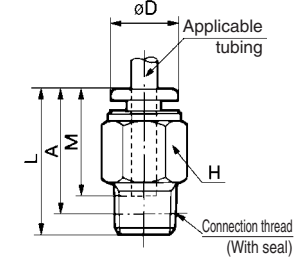


| Applicable tubing O.D. (mm) | Connection thread R | Model      | H (width across flats) | (1) øD | L    | A*   | M    | Effective area (2) (mm <sup>2</sup> ) |          | Weight (g) |
|-----------------------------|---------------------|------------|------------------------|--------|------|------|------|---------------------------------------|----------|------------|
|                             |                     |            |                        |        |      |      |      | Nylon                                 | Urethane |            |
| 3.2                         | M5 x 0.8            | KQ2H23-M5  | 7                      | 7      | 16.7 | 13.6 | 12.7 | 3                                     | 2.5      | 2.1        |
|                             | 1/8                 | KQ2H23-01S | 10                     | —      | 22   | 18   | 15.5 | 3.4                                   | 2.9      | 9          |
|                             | 1/4                 | KQ2H23-02S | 14                     | —      | 19.5 | 13.5 | 15.5 | 3.4                                   | 2.9      | 16         |
| 4                           | M5 x 0.8            | KQ2H04-M5  | 8                      | 8      | 17   | 13.9 | 12.7 | 4                                     | 4        | 2.4        |
|                             | M6 x 1.0            | KQ2H04-M6  | 8                      | —      | 18   | 13.9 | 12.7 | 4                                     | 4        | 2.5        |
|                             | 1/8                 | KQ2H04-01S | 10                     | —      | 22   | 18   | 16   | 5.6                                   | 4        | 9          |
| 6                           | 1/4                 | KQ2H04-02S | 14                     | —      | 19.5 | 13.5 | 16   | 5.6                                   | 4        | 16         |
|                             | M5 x 0.8            | KQ2H06-M5  | 10                     | 10     | 17.8 | 14.7 | 13.5 | 4                                     | 4        | 3.3        |
|                             | M6 x 1.0            | KQ2H06-M6  | 10                     | —      | 19   | 14.9 | 13.5 | 4                                     | 4        | 3.4        |
| 8                           | 1/8                 | KQ2H06-01S | 12                     | —      | 22.5 | 18.5 | 17   | 13.1                                  | 10.4     | 16         |
|                             | 1/4                 | KQ2H06-02S | 14                     | —      | 23   | 17   | 17   | 13.1                                  | 10.4     | 14         |
|                             | 3/8                 | KQ2H06-03S | 17                     | —      | 22   | 15.5 | 17   | 13.1                                  | 10.4     | 27         |
| 10                          | 1/8                 | KQ2H08-01S | 14                     | —      | 28   | 24   | 18.5 | 26.1                                  | 18.0     | 21         |
|                             | 1/4                 | KQ2H08-02S | 17                     | —      | 26.5 | 20.5 | 18.5 | 26.1                                  | 18.0     | 19         |
|                             | 3/8                 | KQ2H08-03S | 17                     | —      | 22   | 15.5 | 18.5 | 26.1                                  | 18.0     | 26         |
| 12                          | 1/8                 | KQ2H10-01S | 17                     | —      | 30   | 26   | 21   | 26.1                                  | 26.1     | 19         |
|                             | 1/4                 | KQ2H10-02S | 17                     | —      | 33.5 | 27.5 | 21   | 41.5                                  | 29.5     | 30         |
|                             | 3/8                 | KQ2H10-03S | 17                     | —      | 29   | 22.5 | 21   | 41.5                                  | 29.5     | 30         |
| 16                          | 1/2                 | KQ2H10-04S | 22                     | —      | 27   | 19   | 21   | 41.5                                  | 29.5     | 53         |
|                             | 1/4                 | KQ2H12-02S | 19                     | —      | 34.5 | 28.5 | 22   | 58.3                                  | 46.1     | 42         |
|                             | 3/8                 | KQ2H12-03S | 19                     | —      | 23.5 | 22   | 22   | 58.3                                  | 46.1     | 34         |
| 16                          | 1/2                 | KQ2H12-04S | 22                     | —      | 30   | 22   | 22   | 58.3                                  | 46.1     | 51         |
|                             | 3/8                 | KQ2H16-03S | 24                     | 25.7   | 39.5 | 33   | 25   | 81                                    | (81)     | 61         |
|                             | 1/2                 | KQ2H16-04S | 24                     | 25.7   | 35.5 | 27.5 | 25   | 113                                   | (96)     | 47         |

<M5, M6>



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\* Reference dimensions after R thread installation.  
Note 1) D: Max. diameter Note 2) ( ): Values for soft nylon.

## Hexagon Socket Head Male Connector: KQ2S

<M5, M6>



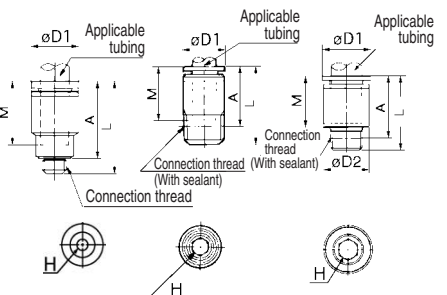
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| Applicable tubing O.D. (mm) | Connection thread P | Model      | H (width across flats) | (1) øD1 | øD2 | L    | A*   | M    | Effective area (2) (mm <sup>2</sup> ) |          | Weight (g) |
|-----------------------------|---------------------|------------|------------------------|---------|-----|------|------|------|---------------------------------------|----------|------------|
|                             |                     |            |                        |         |     |      |      |      | Nylon                                 | Urethane |            |
| 4                           | M5 x 0.8            | KQ2S04-M5  | 2.5                    | 8       | —   | 18.7 | 15.6 | 12.7 | 4                                     | 4        | 2.7        |
|                             | M6 x 1.0            | KQ2S04-M6  | 3                      | —       | —   | 18.2 | 14.1 | 12.7 | 4                                     | 4        | 2.8        |
|                             | 1/8                 | KQ2S04-01S | 3                      | 9.8     | —   | 23   | 19   | 16   | 4.1                                   | 3.6      | 8          |
| 6                           | M5 x 0.8            | KQ2S06-M5  | 2.5                    | 10      | —   | 19.5 | 16.4 | 13.5 | 4                                     | 4        | 3.3        |
|                             | M6 x 1.0            | KQ2S06-M6  | 3                      | —       | —   | 19.1 | 15   | 13.5 | 4                                     | 4        | 3.4        |
|                             | 1/8                 | KQ2S06-01S | 4                      | 11.8    | —   | 24   | 20   | 17   | 10.0                                  | 9.9      | 9          |
| 8                           | 1/4                 | KQ2S06-02S | 4                      | 13.8    | —   | 24   | 18   | 17   | 10.7                                  | 10.0     | 15         |
|                             | 1/8                 | KQ2S08-01S | 5                      | 14      | —   | 28   | 24   | 18.5 | 17.2                                  | 16.2     | 12         |
|                             | 1/4                 | KQ2S08-02S | 6                      | 17      | —   | 25.5 | 19.5 | 18.5 | 17.2                                  | 16.2     | 11         |
| 10                          | 3/8                 | KQ2S08-03S | 6                      | 17      | —   | 27.5 | 21   | 18.5 | 23.3                                  | 16.2     | 24         |
|                             | 1/8                 | KQ2S10-01S | 5                      | 17      | —   | 30   | 26   | 21   | 17.2                                  | 16.2     | 18         |
|                             | 1/4                 | KQ2S10-02S | 8                      | 19      | —   | 27.5 | 21.5 | 21   | 39.0                                  | 26.6     | 12         |
| 12                          | 3/8                 | KQ2S10-03S | 8                      | 19      | —   | 27.5 | 21   | 21   | 39.0                                  | 26.6     | 19         |
|                             | 1/2                 | KQ2S10-04S | 10                     | 22      | —   | 28   | 20   | 21   | 39.0                                  | 26.6     | 35         |
| 16                          | 1/4                 | KQ2S12-02S | 8                      | 19      | —   | 33.5 | 27.5 | 22   | 46.0                                  | 44.5     | 23         |
|                             | 3/8                 | KQ2S12-03S | 10                     | 22      | —   | 29   | 22.5 | 22   | 60.0                                  | 44.5     | 18         |
|                             | 1/2                 | KQ2S12-04S | 10                     | 22      | —   | 28   | 20   | 22   | 60.0                                  | 44.5     | 30         |
| 16                          | 3/8                 | KQ2S16-03S | 10                     | 25.7    | 24  | 39   | 32.5 | 25   | 81                                    | (81)     | 42         |
|                             | 1/2                 | KQ2S16-04S | 12                     | 25.7    | 24  | 35   | 27   | 25   | 113                                   | (96)     | 34         |

<M5, M6> <R>

KQ2S04 to 12 KQ2S16

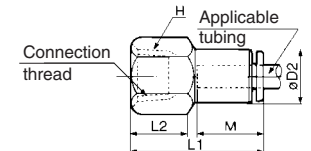


\* Reference dimensions after R thread installation.  
Note 1) øD: Max. diameter  
Note 2) ( ): Values for soft nylon.

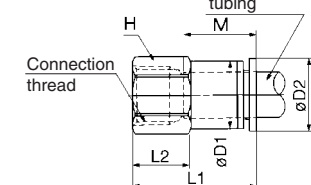
## Female Connector: KQ2F

| Applicable tubing O.D. (mm) | Connection thread Rc | Model     | H (width across flats) | (1) øD1 | øD2  | L1   | L2 | M    | Effective area (2) (mm <sup>2</sup> ) |          | Weight (g) |
|-----------------------------|----------------------|-----------|------------------------|---------|------|------|----|------|---------------------------------------|----------|------------|
|                             |                      |           |                        |         |      |      |    |      | Nylon                                 | Urethane |            |
| 4                           | 1/8                  | KQ2F04-01 | 14                     | —       | 10   | 27   | 11 | 16   | 5.6                                   | 4        | 15         |
|                             | 1/4                  | KQ2F04-02 | 17                     | —       | 10   | 31   | 14 | 16   | 5.6                                   | 4        | 23         |
| 6                           | 1/8                  | KQ2F06-01 | 14                     | —       | 12   | 27.5 | 11 | 17   | 13.1                                  | 10.4     | 15         |
|                             | 1/4                  | KQ2F06-02 | 17                     | —       | 12   | 31   | 13 | 17   | 13.1                                  | 10.4     | 22         |
|                             | 3/8                  | KQ2F06-03 | 19                     | —       | 12   | 33.5 | 15 | 17   | 13.1                                  | 10.4     | 25         |
| 8                           | 1/8                  | KQ2F08-01 | 14                     | —       | 14   | 29   | 11 | 18.5 | 26.1                                  | 18.0     | 17         |
|                             | 1/4                  | KQ2F08-02 | 17                     | —       | 14   | 32.5 | 13 | 18.5 | 26.1                                  | 18.0     | 24         |
|                             | 3/8                  | KQ2F08-03 | 19                     | —       | 14   | 33.5 | 14 | 18.5 | 26.1                                  | 18.0     | 24         |
| 10                          | 1/4                  | KQ2F10-02 | 17                     | —       | 17   | 34.5 | 14 | 21   | 41.5                                  | 29.5     | 27         |
|                             | 3/8                  | KQ2F10-03 | 19                     | —       | 17   | 36.5 | 15 | 21   | 41.5                                  | 29.5     | 30         |
| 12                          | 1/4                  | KQ2F12-02 | 19                     | —       | 19   | 35   | 14 | 22   | 58.3                                  | 46.1     | 36         |
|                             | 3/8                  | KQ2F12-03 | 19                     | —       | 19   | 37   | 14 | 22   | 58.3                                  | 46.1     | 31         |
|                             | 1/2                  | KQ2F12-04 | 24                     | —       | 19   | 41   | 18 | 22   | 58.3                                  | 46.1     | 52         |
| 16                          | 3/8                  | KQ2F16-03 | 24                     | 24      | 25.7 | 38   | 15 | 25   | 81                                    | (81)     | 59         |
|                             | 1/2                  | KQ2F16-04 | 24                     | 24      | 25.7 | 43   | 19 | 25   | 113                                   | (96)     | 58         |

KQ2F04 to 12



KQ2F16



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