# One-touch Fittings

RoHS

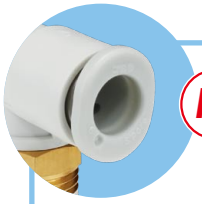
## The New "KQ2"

**KQ, KQ2, and KJ consolidated into the "KQ2"**

- **Enhanced variation**
- **Lightweight**
- **Compact**



*New KQ2 Series*



### New Oval type release button added!

**Applicable tubing O.D.**

| | |
|---|---|
| Metric | ø3.2, ø4, ø6 |
| Inch | ø1/8", ø5/32", ø3/16" |



**Body type: total of 51 models** | **Seal method: 3 types** | **Thread material/Surface treatment (Treated or Non-treated): 2 types**[*1]

*1 Brass, Brass + Electroless nickel plating

| Applicable tubing | Connection thread | Seal method/Release button shape: Sealant – Oval Type | Sealant – Round Type | Gasket seal – Oval Type | Gasket seal – Round Type | Face seal – Oval Type | Face seal – Round Type |
|---|---|---|---|---|---|---|---|
| Metric size | M | | | P.5 | P.101 | | |
| | R | P.5 | P.101 | | | P.65 | P.173 |
| | G | | | | | P.57 | P.165 |
| | Uni | | | P.87 | P.201 | | |
| Inch size | UNF | | | P.29 | P.133 | | |
| | NPT | P.29 | P.133 | | | P.73 | P.185 |
| | M | | | P.49 | P.157 | | |
| | R | P.49 | P.157 | | | P.81 | P.195 |
| | Uni | | | P.95 | P.209 | | |

## *KQ2 Series*

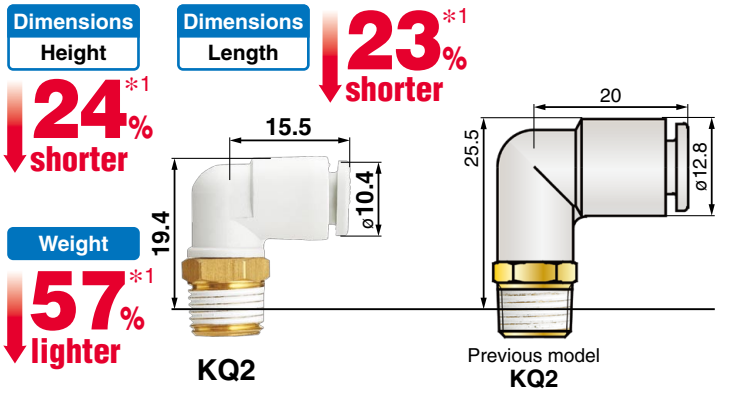
SMC

CAT.ES50-37D

## Improved tube insertion/removal




## Compact and lightweight

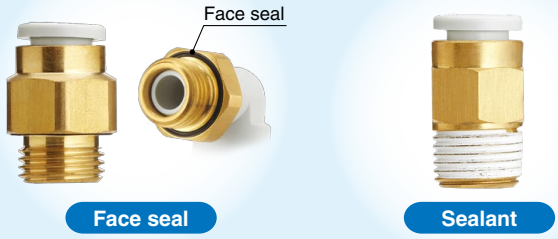



*1 Tube removal strength is ensured to be equivalent to previous model.

*1 Previous KQ2 series model: Male elbow, applicable tubing O.D. ø6, connection thread R1/8

## Selectable seal method*1

*1 Connection thread: R, NPT



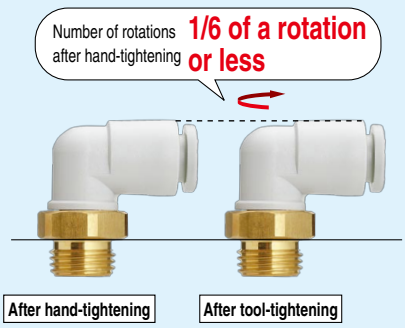

## Selectable surface treatment

- Brass (No plating)
- Brass + Electroless nickel plating

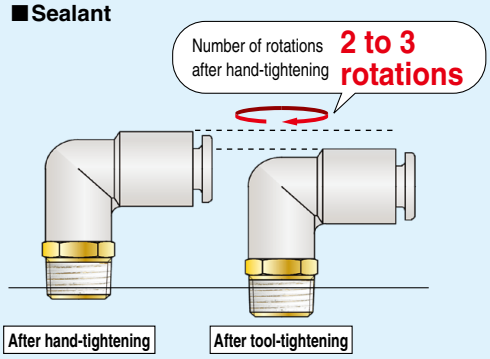
## Face seal adopted for threading

### Improved installability (Reduction in amount of tool-tightening required after hand-tightening)

■Face seal

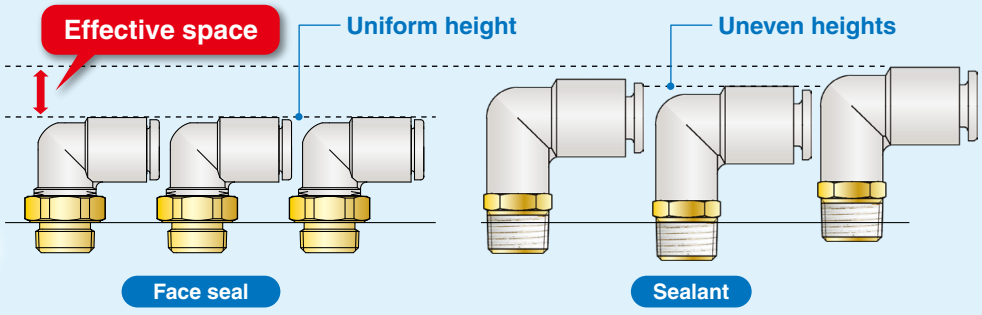



■Sealant




## Uniform height when using multiple fittings

**Provides effective space above fittings**



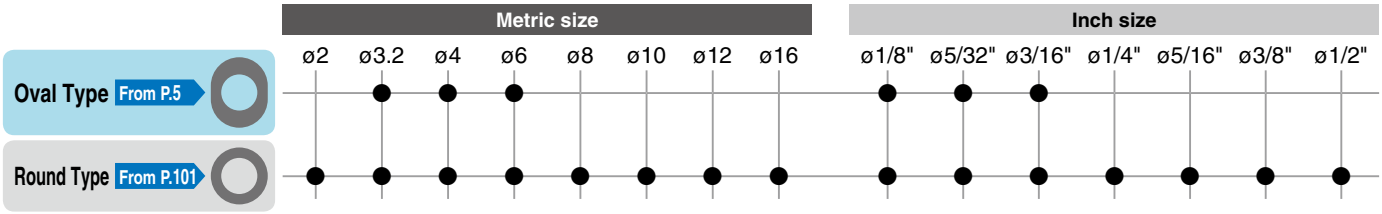

### Prevention of sealant residue/protrusion

The current sealant type leaves residue and protrudes out from the threading when installing, making it necessary to clear away the residue using an air blower or similar. However, no residue is created when using a face seal.

### Re-piping is possible.

**Face seal** Repeated re-piping of up to 6 to 10 times is possible due to use of elastic sealant on seating.

**Sealant** Sealant tape is necessary because sealant becomes separated with repeated installation.




Refer to the next page for details on the applicable tubing sizes of each shape.

# Oval Type/Round Type Variations

**Hexagon Socket Head Male Connector**
KQ2S

Oval Type Round Type

**45° Male Elbow**
KQ2K

Oval Type Round Type

**Bulkhead Union**
KQ2E

Oval Type Round Type

**Universal Female Elbow**
KQ2VF

Oval Type Round Type

**Universal Male Elbow**
KQ2V

Oval Type Round Type

**Extended Male Elbow**
KQ2W

Oval Type Round Type

**Bulkhead Connector**
KQ2E

Oval Type Round Type

**Branch Universal Female Elbow**
KQ2ZF

Round Type

**Male Connector**
KQ2H

Oval Type Round Type

**Female Connector**
KQ2F

Oval Type Round Type

**Straight Union**
KQ2H

Oval Type Round Type

**Different Diameter Straight**
KQ2H

Oval Type Round Type

**Cross**
KQ2TW

Oval Type Round Type

**Male Elbow**
KQ2L

Oval Type Round Type

**Union Elbow**
KQ2L

Oval Type Round Type

**Plug-in Elbow**
KQ2L

Oval Type Round Type

**Reducer Elbow**
KQ2L

Oval Type Round Type

**Different Diameter Cross**
KQ2TX

Oval Type Round Type

**Male Branch Tee**
KQ2T

Oval Type Round Type

**Union Tee**
KQ2T

Oval Type Round Type

**Different Diameter Tee**
KQ2T

Oval Type Round Type

**Different Diameter Tee**
KQ2T

Oval Type Round Type

**Different Diameter Cross**
KQ2TY

Oval Type Round Type

**Hexagon Socket Head Universal Male Elbow**
KQ2VS

Oval Type Round Type

**Branch Male Elbow**
KQ2LU

Round Type

**Female Elbow**
KQ2LF

Oval Type Round Type

**Double Universal Male Elbow**
KQ2VD

Oval Type Round Type

**Triple Universal Male Elbow**
KQ2VT

Oval Type Round Type

**Branch Universal Male Elbow**
KQ2Z

Round Type

**Double Branch Universal Male Elbow**
KQ2ZD

Round Type

**Male Run Tee**
KQ2Y

Oval Type Round Type

**Triple Branch Universal Male Elbow**
KQ2ZT

Round Type

**Branch Union Elbow**
KQ2LU

Round Type

**Extended Plug-in Elbow**
KQ2W

Oval Type Round Type

**Male Delta Union**
KQ2D

Oval Type Round Type

**Delta Union**
KQ2D

Oval Type Round Type

**Double Branch "Y"**
KQ2UD

Round Type

**Different Diameter Double Union "Y"**
KQ2UD

Round Type

**Different Diameter Plug-in "Y"**
KQ2X

Round Type

**Double Plug-in "Y"**
KQ2XD

Round Type

**Union "Y"**
KQ2U

Round Type

**Different Diameter Union "Y"**
KQ2U

Round Type

**Plug-in "Y"**
KQ2U

Round Type

**Branch "Y"**
KQ2U

Round Type

**Plug-in Reducer**
KQ2R

Oval Type Round Type

**Bulkhead Male Elbow**
KQ2LE

Oval Type Round Type

**Tube Cap**
KQ2C

Oval Type Round Type

* The supported release button type (oval type/round type) is shown next to each product.

# Oval Type Release Button

## Sealant/Gasket Seal







**Applicable tubing**

**Connection thread**: M | R | Rc | UNF | NPT

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.5
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.29
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.49


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## Face Seal









**Applicable tubing**

**Connection thread**: G | R | Rc | NPT | R

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.57
- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.65
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.73
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.81


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## Gasket Seal (Uni Thread)





**Applicable tubing**

**Connection thread**: Rc | G | NPT | NPTF

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.87
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.95


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# Round Type Release Button

## Sealant/Gasket Seal







Applicable tubing

Connection thread: M | R | Rc | UNF | NPT

**Metric**
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

**Inch**
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

**Inch**
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"


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## Face Seal









Applicable tubing

Connection thread: G | R | Rc | NPT | R

**Metric**
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

**Metric**
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

**Inch**
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

**Inch**
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"


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## Gasket Seal (Uni Thread)





Applicable tubing

Connection thread: Rc | G | NPT | NPTF

**Metric**
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

**Inch**
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"


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# Oval Type Metric Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

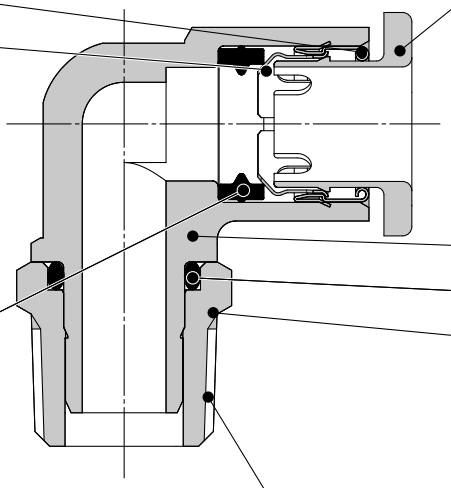
**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Light gray)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

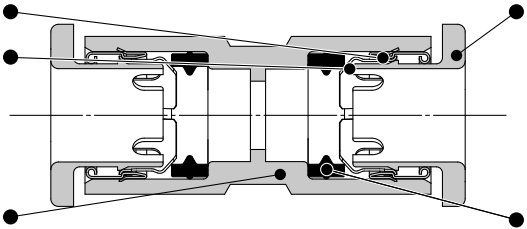
**Connection thread**

M, R, Rc

**Guide**

**Chuck**

**Body**



**Release button (Light gray)**

**Seal**

∗ Fittings without thread portion, and with all resin body material are copper free specification.

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



**Made to Order**
**(Refer to page 27 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø3.2, ø4, ø6 |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water∗1 |
| **Operating pressure range**∗2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Seal on the threads** | | With sealant |

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT, PP, Stainless steel 303 |
| Stud | C3604 (Thread portion), Stainless steel 303 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

### Threaded Type KQ2 H 06 – 01 A S 1

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **LF** | Female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **D** | Male delta union |
| **E** | Bulkhead union |
| | Bulkhead connector |
| **LE** | Bulkhead male elbow |
| **N** | Adapter |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |

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

| Symbol | | Size |
|---|---|---|
| Tubing connection | **00**∗1 | Same dia. tubing |
| Thread connection | **M3** | M3 x 0.5 |
| | **M5** | M5 x 0.8 |
| | **M6** | M6 x 1.0 |
| | **01** | R1/8, Rc1/8 |
| | **02** | R1/4, Rc1/4 |
| | **03** | R3/8, Rc3/8 |

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |
| **G** | Stainless steel 303 (Connection thread: Only male thread and M3) |

**Oval type release button**

**Spare Parts**

Use the part number below to order the gasket for M3, M5, and M6 threads.

Gasket for M3 thread: M-3G2
Gasket for M5 thread: M-5G2
Gasket for M6 thread: M-6G

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Tube – Tube Type KQ2 H 06 – 00 A 1

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Straight union |
| | Different diameter straight |
| **L** | Union elbow |
| | Plug-in elbow |
| | Reducer elbow |
| **W** | Extended plug-in elbow |
| **T** | Union tee |
| | Different diameter tee |
| **TW** | Cross |
| **TX** | Different diameter cross |
| **TY** | Different diameter cross |
| **D** | Delta union |
| **R** | Plug-in reducer |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |

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

| Symbol | | Size |
|---|---|---|
| Tubing (Rod) connection | **00** | Same diameter tubing |
| | **99** | Same diameter rod |
| Different dia. tubing (Reducer) | **23** | ø3.2 |
| | **04** | ø4 |
| | **06** | ø6 |
| | **08** | ø8 |

**Oval type release button**

**Accessories**

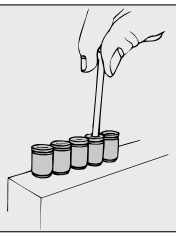
| Symbol | Name |
|---|---|
| **KQ2N** | Nipple |
| | Reducer nipple |
| **KQ2C** | Tube cap |
| **KQ2P** | Plug |

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.10



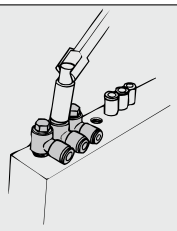
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.13



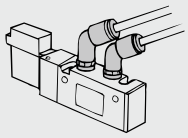
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.13



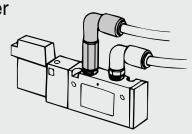
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.17



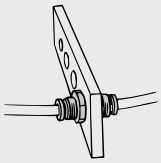
Basically, it is used together with a male elbow.
Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.24



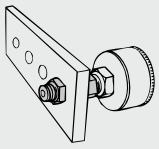
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.24



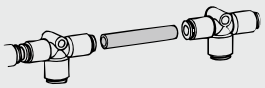
Use to connect a male thread and tubing through a panel, etc.



**Nipple**
**KQ2N** P.26



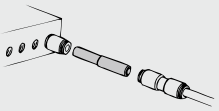
Use to connect One-touch fittings.



**Reducer nipple**
**KQ2N** P.26



Use to connect One-touch fittings of different sizes.



**Universal female elbow**
**KQ2VF** P.14



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Male connector**
**KQ2H** P.9



Use to pipe a female thread in the same direction. Most general model.

**Cross**
**KQ2TW** P.20



Use to four-branch a line.

**Reducer elbow**
**KQ2L** P.12



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

**Female connector**
**KQ2F** P.10



Use to pipe a male thread of a pressure gauge, etc.

**Male elbow**
**KQ2L** P.11



Use to pipe a female thread at right angles. Most general model.

**Different diameter cross**
**KQ2TX** P.20



Use to four-branch a line and connect tubing of reduced size at both 90° angles.

**Straight union**
**KQ2H** P.9



Use to connect tubing in the same direction.

**Union elbow**
**KQ2L** P.11



Use to connect tubing at right angles.

**Male branch tee**
**KQ2T** P.18



Use to branch a female thread at both 90° angles.

**Different diameter straight**
**KQ2H** P.9



Use to connect tubing of different sizes.

**Plug-in elbow**
**KQ2L** P.12



Use to change the tube direction of One-touch fittings by 90°.

**Union tee**
**KQ2T** P.19



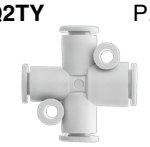
Use to branch tubing at both 90° angles.

**Different diameter tee**
**KQ2T** P.19

Use to connect tubing of reduced size for branching at both 90° angles.

**Different diameter tee**
**KQ2T** P.19

Use to connect tubing of reduced size for branching at a 90° angle from two pipes running in the same direction.

**Different diameter cross**
**KQ2TY** P.20

Use to connect tubing of reduced size for branching in three directions.

**Hexagon socket head universal male elbow**
**KQ2VS** P.14

Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Female elbow**
**KQ2LF** P.16

Use to pipe a male thread at right angles.

**Double universal male elbow**
**KQ2VD** P.15

Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Triple universal male elbow**
**KQ2VT** P.15

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

**Male run tee**
**KQ2Y** P.21

Use to branch a female thread in the same direction and at a 90° angle.

**Extended plug-in elbow**
**KQ2W** P.16

Use to change the tube direction of One-touch fittings by 90°. Multi-leveled piping is also possible with the plug-in elbow.

**Male delta union**
**KQ2D** P.22

Use to branch a female thread at two right angles.

**Delta union**
**KQ2D** P.23

Use to branch tubing at three right angles.

**Plug-in reducer**
**KQ2R** P.23

Use to change size of One-touch fittings.

**Bulkhead male elbow**
**KQ2LE** P.24

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

**Adapter**
**KQ2N** P.25

Use to connect One-touch fittings and R female threads.

**Tube cap**
**KQ2C** P.25

Use to plug unused tubing.

**Color cap**
**KQ2C** P.26

Mount onto the release button and use different colors for piping according to applications.

**Plug**
**KQ2P** P.25

Use to plug unused One-touch fittings.

**The following models do not support oval type release buttons. Refer to the round type (from page 101).**

**Branch universal female elbow**
**KQ2ZF** P.115


**Branch male elbow**
**KQ2LU** P.110


**Branch universal male elbow**
**KQ2Z** P.115


**Double branch universal male elbow**
**KQ2ZD** P.116


**Triple branch universal male elbow**
**KQ2ZT** P.116


**Branch union elbow**
**KQ2LU** P.109


**Double branch "Y"**
**KQ2UD** P.126


**Different diameter double union "Y"**
**KQ2UD** P.126


**Different diameter plug-in "Y"**
**KQ2X** P.127


**Double plug-in "Y"**
**KQ2XD** P.127


**Union "Y"**
**KQ2U** P.125


**Different diameter union "Y"**
**KQ2U** P.125


**Plug-in "Y"**
**KQ2U** P.125


**Branch "Y"**
**KQ2U** P.124


⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

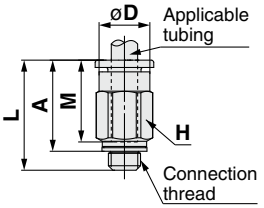
## Dimensions

### Male Connector: KQ2H (Gasket seal)

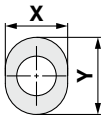


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2H23-M3G1 | 7 | 6.9 | 6.7 | 9.5 | 17 | 14.4 | 13.3 | 0.9 | 0.9 | 1.2 | 2.4 |
| | M5 x 0.8 | KQ2H23-M5□1 | 7 | 6.9 | 6.7 | 9.5 | 17.3 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 2.7 |
| ø4 | M3 x 0.5 | KQ2H04-M3G1 | 8 | 7.9 | 7.7 | 10 | 17.1 | 14.5 | 13.3 | 0.9 | 0.9 | 1.2 | 2.9 |
| | M5 x 0.8 | KQ2H04-M5□1 | 8 | 7.9 | 7.7 | 10 | 17.7 | 14.7 | 13.3 | 4 | 4 | 2.5 | 3.3 |
| | M6 x 1.0 | KQ2H04-M6□1 | 8 | 7.9 | 7.7 | 10 | 18.7 | 14.7 | 13.3 | 5.6 | 4 | 3 | 3.6 |
| ø6 | M5 x 0.8 | KQ2H06-M5□1 | 10 | 9.9 | 9.7 | 12 | 17.7 | 14.7 | 13.3 | 4 | 4 | 2.5 | 4.1 |
| | M6 x 1.0 | KQ2H06-M6□1 | 10 | 9.9 | 9.7 | 12 | 18.8 | 14.8 | 13.3 | 5.6 | 5.6 | 3 | 4.4 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



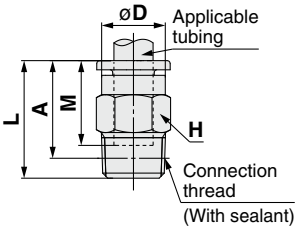

### Male Connector: KQ2H (Sealant)



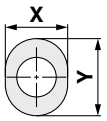
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2H23-01□S1 | 10 | — | 6.7 | 9.5 | 14 | 10.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | KQ2H23-02□S1 | 14 | — | 6.7 | 9.5 | 16.7 | 12 | 13.3 | 3.4 | 2.9 | 2.5 | 15.3 |
| ø4 | 1/8 | KQ2H04-01□S1 | 10 | — | 7.7 | 10 | 14.3 | 11.2 | 13.3 | 4.8 | 3.4 | 3 | 5.6 |
| | 1/4 | KQ2H04-02□S1 | 14 | — | 7.7 | 10 | 16.7 | 12 | 13.3 | 4.8 | 3.4 | 3 | 14.6 |
| ø6 | 1/8 | KQ2H06-01□S1 | 10 | 9.9 | 9.7 | 12 | 18.4 | 15.3 | 13.3 | 13.1 | 10.4 | 4.5 | 5.8 |
| | 1/4 | KQ2H06-02□S1 | 14 | — | 9.7 | 12 | 16.7 | 12 | 13.3 | 13.1 | 10.4 | 4.5 | 12.5 |
| | 3/8 | KQ2H06-03□S1 | 17 | — | 9.7 | 12 | 18.1 | 13 | 13.3 | 13.1 | 10.4 | 4.5 | 24.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



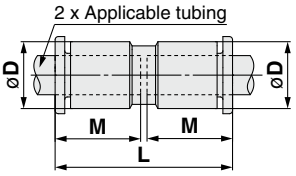

**Release button dimensions**



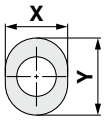

### Straight Union: KQ2H



| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions X | Release button dimensions Y | L | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | KQ2H23-00A1 | 7.1 | 6.7 | 9.5 | 27.6 | 13.3 | 3.4 | 2.9 | 2.5 | 1.4 |
| ø4 | KQ2H04-00A1 | 8.2 | 7.7 | 10 | 27.6 | 13.3 | 5.6 | 4 | 3 | 1.6 |
| ø6 | KQ2H06-00A1 | 10.4 | 9.7 | 12 | 27.6 | 13.3 | 13.1 | 10.4 | 4.5 | 2.1 |



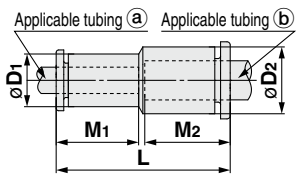

**Release button dimensions**



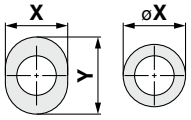

### Different Diameter Straight: KQ2H



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | øD1 | Release button dimensions ⓐ øX (X) | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L | M1 | M2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | ø3.2 | KQ2H02-23A1 | 5.8 | 5.5 | — | 7.1 | 6.7 | 9.5 | 26.2 | 11.9 | 13.3 | — | 0.9 | 1.4 | 1.1 |
| ø2 | ø4 | KQ2H02-04A1 | 5.8 | 5.5 | — | 8.2 | 7.7 | 10 | 26.2 | 11.9 | 13.3 | — | 0.9 | 1.4 | 1.2 |
| ø3.2 | ø4 | KQ2H23-04A1 | 7.1 | 6.7 | 9.5 | 8.2 | 7.7 | 10 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.5 |
| ø3.2 | ø6 | KQ2H23-06A1 | 7.1 | 6.7 | 9.5 | 10.4 | 9.7 | 12 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.8 |
| ø4 | ø6 | KQ2H04-06A1 | 8.2 | 7.7 | 10 | 10.4 | 9.7 | 12 | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 2 |
| ø6 | ø8 | KQ2H06-08A1 | 10.4 | 9.7 | 12 | 13.2 | 13 | — | 28.5 | 13.3 | 14.2 | 13.1 | 10.4 | 4.5 | 2.9 |




**Release button dimensions**




Applicable tubing O.D.: ø3.2, ø4, ø6

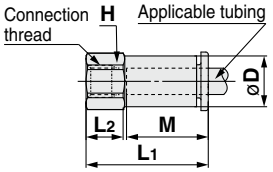
## Dimensions

### Female Connector: KQ2F

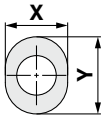


| Applicable tubing O.D. [mm] | Connection thread M, Rc | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2F23-M3□1 | 7 | 6.9 | 6.7 | 9.5 | 17.3 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.1 |
| | M5 x 0.8 | KQ2F23-M5□1 | 7 | 6.9 | 6.7 | 9.5 | 19.7 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.3 |
| ø4 | M3 x 0.5 | KQ2F04-M3□1 | 8 | 7.9 | 7.7 | 10 | 16.5 | 5.7 | 13.3 | 4 | 4 | 2.5 | 4.1 |
| | M5 x 0.8 | KQ2F04-M5□1 | 8 | 7.9 | 7.7 | 10 | 19.6 | 5.7 | 13.3 | 4 | 4 | 3 | 4.5 |
| | 1/8 | KQ2F04-01□1 | 14 | 7.9 | 7.7 | 10 | 24.1 | 8.5 | 13.3 | 5.6 | 4 | 3 | 12 |
| | 1/4 | KQ2F04-02□1 | 17 | 7.9 | 7.7 | 10 | 29 | 12.9 | 13.3 | 5.6 | 4 | 3 | 21.5 |
| ø6 | M5 x 0.8 | KQ2F06-M5□1 | 10 | 9.9 | 9.7 | 12 | 17.6 | 5.7 | 13.3 | 10 | 10 | 4.1 | 5.5 |
| | 1/8 | KQ2F06-01□1 | 14 | 9.9 | 9.7 | 12 | 23.6 | 8.5 | 13.3 | 13.1 | 10.4 | 4.5 | 12.2 |
| | 1/4 | KQ2F06-02□1 | 17 | 9.9 | 9.7 | 12 | 28.5 | 12.9 | 13.3 | 13.1 | 10.4 | 4.5 | 21.6 |
| | 3/8 | KQ2F06-03□1 | 19 | 9.9 | 9.7 | 12 | 29.9 | 13.4 | 13.3 | 13.1 | 10.4 | 4.5 | 22.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

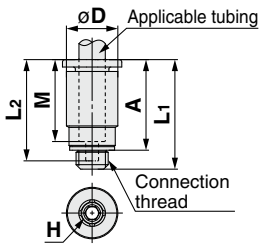



### Hexagon Socket Head Male Connector: KQ2S (Gasket seal)

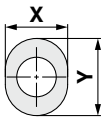


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2S23-M3G1 | 1.5 | 7 | 6.7 | 9.5 | 17.1 | 16.1 | 14.5 | 13.3 | 1.4 | 1.4 | 1.5 | 2.2 |
| | M5 x 0.8 | KQ2S23-M5□1 | 2 | 7 | 6.7 | 9.5 | 17.5 | 16.3 | 14.5 | 13.3 | 2.5 | 2.5 | 2 | 2.6 |
| ø4 | M3 x 0.5 | KQ2S04-M3G1 | 1.5 | 8 | 7.7 | 10 | 17.1 | 16.1 | 14.5 | 13.3 | 1.4 | 1.4 | 1.5 | 2.3 |
| | M5 x 0.8 | KQ2S04-M5□1 | 2.5 | 8 | 7.7 | 10 | 18.6 | 17.8 | 15.6 | 13.3 | 4 | 4 | 2.5 | 3 |
| | M6 x 1.0 | KQ2S04-M6□1 | 3 | 8 | 7.7 | 10 | 18.5 | 17.8 | 14.5 | 13.3 | 4 | 4 | 3.1 | 4.1 |
| ø6 | M5 x 0.8 | KQ2S06-M5□1 | 2.5 | 10 | 9.7 | 12 | 19.5 | 17.8 | 16.5 | 13.3 | 4 | 4 | 2.5 | 3.5 |
| | M6 x 1.0 | KQ2S06-M6□1 | 3 | 10 | 9.7 | 12 | 19.1 | 18.1 | 15.1 | 13.3 | 4 | 4 | 3.1 | 5.1 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



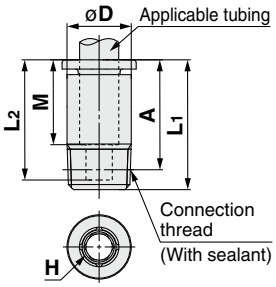

### Hexagon Socket Head Male Connector: KQ2S (Sealant)



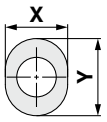
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-01□S1 | 3 | 9.8 | 7.7 | 10 | 19.7 | 18.8 | 16.6 | 13.3 | 4.1 | 3.6 | 3.1 | 8.1 |
| ø6 | 1/8 | KQ2S06-01□S1 | 4 | 10 | 9.7 | 12 | 20 | 18.8 | 16.9 | 13.3 | 10 | 9.9 | 4.1 | 6.5 |
| | 1/4 | KQ2S06-02□S1 | 4 | 13.8 | 9.7 | 12 | 19.8 | 18.8 | 15.1 | 13.3 | 10.7 | 10 | 4.1 | 13.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



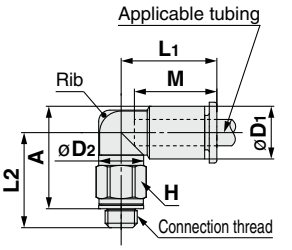
## Dimensions

### Male Elbow: KQ2L (Gasket seal)

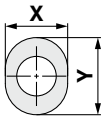


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2L23-M3G1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 13.8 | 14.8 | 13.3 | 0.8 | 0.8 | 1.2 | 2.7 | ● |
| | M5 x 0.8 | KQ2L23-M5□1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.3 | 14.9 | 13.3 | 2.6 | 2.2 | 2.5 | 3.1 | ● |
| ø4 | M3 x 0.5 | KQ2L04-M3G1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.3 | 15.8 | 13.3 | 0.8 | 0.8 | 1.2 | 2.7 | ● |
| | M5 x 0.8 | KQ2L04-M5□1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.8 | 15.9 | 13.3 | 3.5 | 3.5 | 2.5 | 3.1 | ● |
| | M6 x 1.0 | KQ2L04-M6□1 | 8 | 8.2 | 7.7 | 10 | 7 | 15.4 | 15.8 | 15.9 | 13.3 | 3.5 | 3.5 | 2.5 | 4.2 | ● |
| ø6 | M5 x 0.8 | KQ2L06-M5□1 | 7 | 10.4 | 9.7 | 12 | 7 | 14.5 | 16.5 | 18.7 | 13.3 | 3.5 | 3.5 | 2.5 | 3.2 | ● |
| | M6 x 1.0 | KQ2L06-M6□1 | 8 | 10.4 | 9.7 | 12 | 7 | 14.5 | 17.5 | 18.7 | 13.3 | 3.5 | 3.5 | 2.5 | 4.3 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



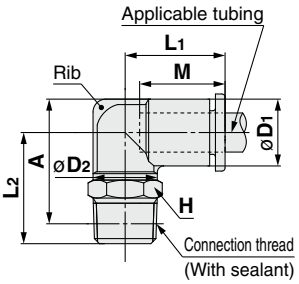

### Male Elbow: KQ2L (Sealant)



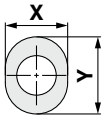
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2L23-01□S1 | 10 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.7 | 17.2 | 13.3 | 3 | 2.5 | 2.5 | 4.6 | — |
| | 1/4 | KQ2L23-02□S1 | 14 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.2 | 20.1 | 13.3 | 3 | 2.5 | 2.5 | 14.1 | — |
| ø4 | 1/8 | KQ2L04-01□S1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 17.2 | 13.3 | 4.6 | 3.3 | 3 | 4.8 | ● |
| | 1/4 | KQ2L04-02□S1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.7 | 21.1 | 13.3 | 4.6 | 3.3 | 3 | 14.3 | ● |
| ø6 | 1/8 | KQ2L06-01□S1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.3 | 19.4 | 13.3 | 11.4 | 9 | 4.5 | 5.2 | — |
| | 1/4 | KQ2L06-02□S1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 22.8 | 23.3 | 13.3 | 11.4 | 9 | 4.5 | 14.7 | — |
| | 3/8 | KQ2L06-03□S1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 24.1 | 24.2 | 13.3 | 11.4 | 9 | 4.5 | 26.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



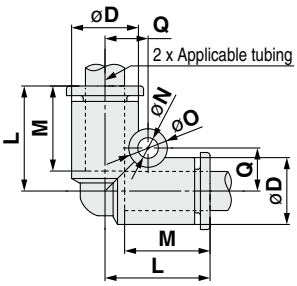

**Release button dimensions**



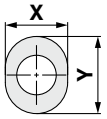

### Union Elbow: KQ2L



| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions X | Release button dimensions Y | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | KQ2L23-00A1 | 7.1 | 6.7 | 9.5 | 14.9 | 5.4 | 13.3 | 6 | 3.2 | 3 | 2.5 | 2.5 | 1.6 |
| ø4 | KQ2L04-00A1 | 8.2 | 7.7 | 10 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 4.2 | 4.2 | 3 | 1.9 |
| ø6 | KQ2L06-00A1 | 10.4 | 9.7 | 12 | 16.3 | 6.8 | 13.3 | 6 | 3.2 | 11.4 | 9 | 4.5 | 2.7 |




**Release button dimensions**

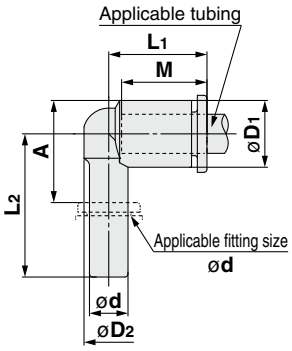


## Dimensions

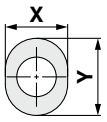
### Plug-in Elbow: KQ2L



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø3.2 | KQ2L23-99A1 | 7.1 | 6.7 | 9.5 | 6.4 | 14.4 | 20.9 | 11.1 | 13.3 | 3 | 2.5 | 2.2 | 0.9 |
| ø4 | ø4 | KQ2L04-99A1 | 8.2 | 7.7 | 10 | 7.2 | 14.5 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 2.5 | 1.2 |
| ø6 | ø6 | KQ2L06-99A1 | 10.4 | 9.7 | 12 | 8 | 15.3 | 22.3 | 14.2 | 13.3 | 9 | 9 | 4 | 1.8 |



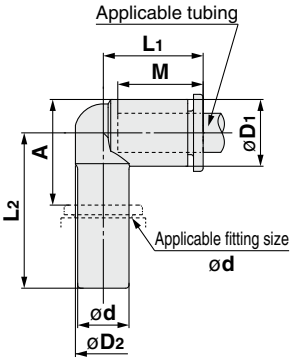

**Release button dimensions**



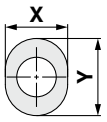

### Reducer Elbow: KQ2L



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø4 | KQ2L23-04A1 | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 23.9 | 14.1 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø6 | KQ2L23-06A1 | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 24.1 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 1.3 |
| ø4 | ø6 | KQ2L04-06A1 | 8.2 | 7.7 | 10 | 7.2 | 14.8 | 24.6 | 15.4 | 13.3 | 4.2 | 4.2 | 3 | 1.5 |
| | ø8 | KQ2L04-08A1 | 8.2 | 7.7 | 10 | 7.2 | 14.8 | 29.5 | 19.4 | 13.3 | 4.2 | 4.2 | 3 | 1.8 |
| ø6 | ø8 | KQ2L06-08A1 | 10.4 | 9.7 | 12 | 9 | 15.5 | 24.2 | 15.2 | 13.3 | 11.4 | 9 | 4.5 | 2.1 |
| | ø10 | KQ2L06-10A1 | 10.4 | 9.7 | 12 | 9 | 15.5 | 31.6 | 21.2 | 13.3 | 11.4 | 9 | 4.5 | 2.7 |




**Release button dimensions**



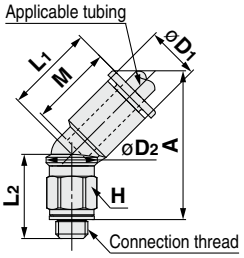
## Dimensions

### 45° Male Elbow: KQ2K (Gasket seal)

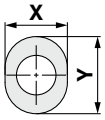


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2K04-M5□1 | 7 | 8.2 | 7.7 | 10 | 8 | 14.4 | 13.1 | 22.8 | 13.3 | 3.4 | 3.4 | 2.5 | 3 |
| | M6 x 1.0 | KQ2K04-M6□1 | 8 | 8.2 | 7.7 | 10 | 8 | 14.4 | 14.1 | 22.8 | 13.3 | 3.4 | 3.4 | 2.5 | 4.1 |
| ø6 | M5 x 0.8 | KQ2K06-M5□1 | 7 | 10.4 | 9.7 | 12 | 8 | 14.4 | 17 | 27.4 | 13.3 | 3.4 | 3.4 | 2.5 | 3.5 |
| | M6 x 1.0 | KQ2K06-M6□1 | 8 | 10.4 | 9.7 | 12 | 8 | 14.4 | 18 | 27.4 | 13.3 | 3.4 | 3.4 | 2.5 | 4.5 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



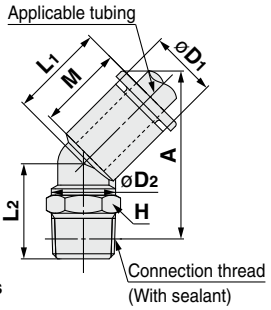

### 45° Male Elbow: KQ2K (Sealant)



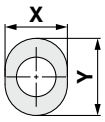
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-01□S1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.4 | 12.7 | 22.3 | 13.3 | 4.8 | 3.4 | 3 | 4.6 |
| | 1/4 | KQ2K04-02□S1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.4 | 17.2 | 25.2 | 13.3 | 4.8 | 3.4 | 3 | 14.1 |
| ø6 | 1/8 | KQ2K06-01□S1 | 10 | 10.4 | 9.7 | 12 | 10 | 14.7 | 14.8 | 25.3 | 13.3 | 8.7 | 6.9 | 4.5 | 5 |
| | 1/4 | KQ2K06-02□S1 | 14 | 10.4 | 9.7 | 12 | 10 | 14.7 | 19.3 | 28.2 | 13.3 | 8.7 | 6.9 | 4.5 | 14.5 |
| | 3/8 | KQ2K06-03□S1 | 17 | 10.4 | 9.7 | 12 | 10 | 14.7 | 20.6 | 29.1 | 13.3 | 8.7 | 6.9 | 4.5 | 26.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**

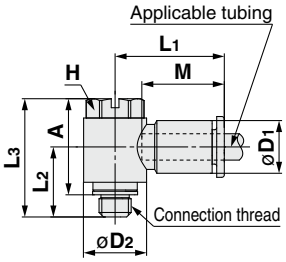



### Universal Male Elbow: KQ2V (Gasket seal)

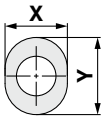


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2V04-M5□1 | 8 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.9 | 18.4 | 14.9 | 13.3 | 2.9 | 2.9 | 2.5 | 5.4 |
| ø6 | M5 x 0.8 | KQ2V06-M5□1 | 8 | 10.4 | 9.7 | 12 | 9.8 | 18.3 | 10.9 | 18.4 | 14.9 | 13.3 | 3.8 | 3.8 | 2.5 | 5.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



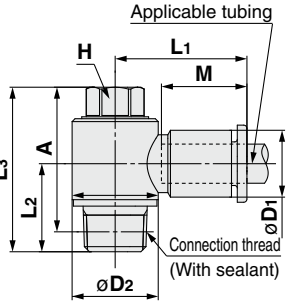

### Universal Male Elbow: KQ2V (Sealant)



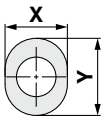
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-01□S1 | 8 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13.7 | 25.6 | 22.5 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø6 | 1/8 | KQ2V06-01□S1 | 8 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 13.7 | 25.6 | 22.5 | 13.3 | 7.5 | 5.9 | 4.5 | 13.5 |
| | 1/4 | KQ2V06-02□S1 | 10 | 10.4 | 9.7 | 12 | 15.3 | 19.9 | 17.9 | 30.5 | 25.8 | 13.3 | 7.5 | 5.9 | 4.5 | 24.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



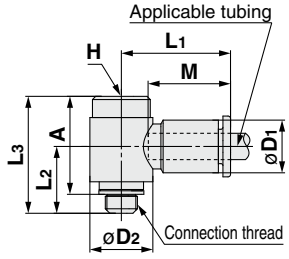
## Dimensions

### Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)

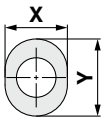


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2VS04-M5□1 | 4 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.4 | 18.2 | 15.2 | 13.3 | 2.9 | 2.9 | 2.5 | 5.3 |
| ø6 | M5 x 0.8 | KQ2VS06-M5□1 | 4 | 10.4 | 9.7 | 12 | 9.8 | 18.3 | 10.4 | 18.2 | 15.2 | 13.3 | 3.8 | 3.8 | 2.5 | 5.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



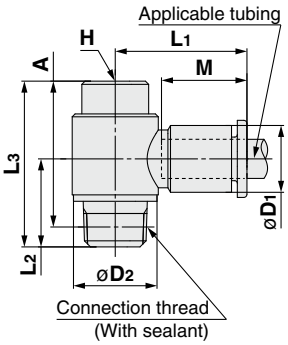

### Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)



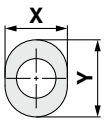
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VS04-01□S1 | 6 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13.7 | 25.8 | 22.7 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø6 | 1/8 | KQ2VS06-01□S1 | 6 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 13.7 | 25.8 | 22.7 | 13.3 | 7.5 | 5.9 | 4.5 | 13.5 |
| | 1/4 | KQ2VS06-02□S1 | 6 | 10.4 | 9.7 | 12 | 15.3 | 19.9 | 17.9 | 26.5 | 21.8 | 13.3 | 7.5 | 5.9 | 4.5 | 20.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**

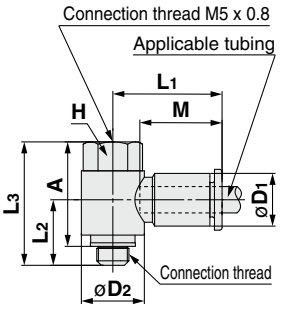



### Universal Female Elbow: KQ2VF (Gasket seal)

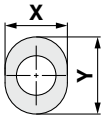


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2VF04-M5□1 | 8 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.2 | 19.2 | 16.2 | 13.3 | 2.9 | 2.9 | 2.5 | 5.5 |
| ø6 | M5 x 0.8 | KQ2VF06-M5□1 | 8 | 10.4 | 9.7 | 12 | 9.8 | 18.3 | 10.2 | 19.2 | 16.2 | 13.3 | 3.8 | 3.8 | 2.5 | 5.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



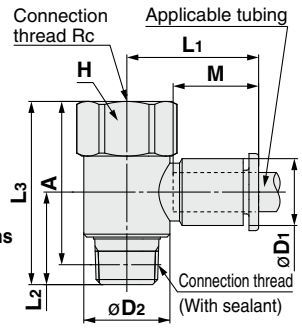

### Universal Female Elbow: KQ2VF (Sealant)



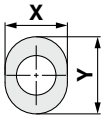
| Applicable tubing O.D. [mm] | Connection thread Rc, R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VF04-01□S1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 14.4 | 28.5 | 25.4 | 13.3 | 2.9 | 2.9 | 3 | 17.3 |
| ø6 | 1/8 | KQ2VF06-01□S1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 14.4 | 28.5 | 25.4 | 13.3 | 7.5 | 5.9 | 4.5 | 17.6 |
| | 1/4 | KQ2VF06-02□S1 | 17 | 10.4 | 9.7 | 12 | 17.6 | 21.2 | 19.4 | 37.9 | 33.2 | 13.3 | 7.5 | 5.9 | 4.5 | 37 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

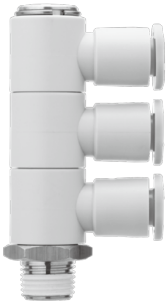



**Release button dimensions**



## Dimensions

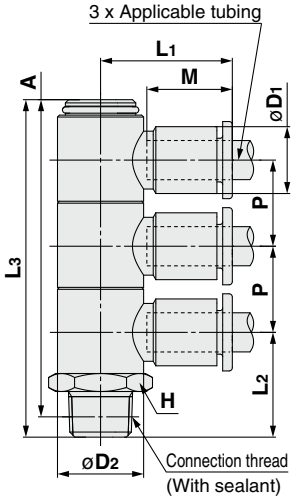
### Triple Universal Male Elbow: KQ2VT (Sealant)



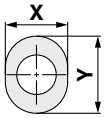
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VT04-01□S1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 25.3 |
| | 1/4 | KQ2VT04-02□S1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 32.9 |
| | 3/8 | KQ2VT04-03□S1 | 17 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 44.8 |
| ø6 | 1/8 | KQ2VT06-01□S1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 26.2 |
| | 1/4 | KQ2VT06-02□S1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 33.9 |
| | 3/8 | KQ2VT06-03□S1 | 17 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 45.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



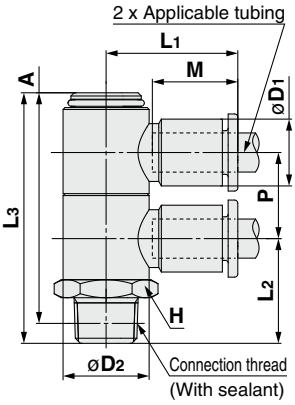

### Double Universal Male Elbow: KQ2VD (Sealant)



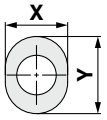
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VD04-01□S1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 19.7 |
| | 1/4 | KQ2VD04-02□S1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 27.4 |
| | 3/8 | KQ2VD04-03□S1 | 17 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 39.3 |
| ø6 | 1/8 | KQ2VD06-01□S1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 20.3 |
| | 1/4 | KQ2VD06-02□S1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 28 |
| | 3/8 | KQ2VD06-03□S1 | 17 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 39.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



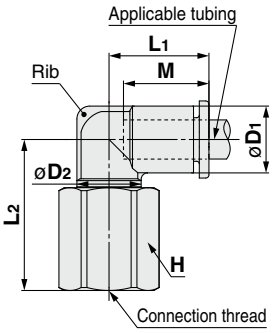
## Dimensions

### Female Elbow: KQ2LF

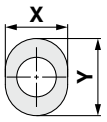


| Applicable tubing O.D. [mm] | Connection thread M, Rc | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2LF04-M5□1 | 8 | 8.2 | 7.7 | 10 | 7 | 15.4 | 15.3 | 13.3 | 3.5 | 3.5 | 2.5 | 4.7 | ● |
| | M6 x 1.0 | KQ2LF04-M6□1 | 8 | 8.2 | 7.7 | 10 | 7 | 15.4 | 16.1 | 13.3 | 3.5 | 3.5 | 2.5 | 4.6 | ● |
| | 1/8 | KQ2LF04-01□1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 22.4 | 13.3 | 4.2 | 4.2 | 3 | 17.6 | — |
| | 1/4 | KQ2LF04-02□1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 26.9 | 13.3 | 4.2 | 4.2 | 3 | 29.6 | — |
| ø6 | M5 x 0.8 | KQ2LF06-M5□1 | 8 | 10.4 | 9.7 | 12 | 7 | 14.5 | 17 | 13.3 | 3.5 | 3.5 | 2.5 | 4.8 | ● |
| | M6 x 1.0 | KQ2LF06-M6□1 | 8 | 10.4 | 9.7 | 12 | 7 | 14.5 | 17.8 | 13.3 | 3.5 | 3.5 | 2.5 | 4.7 | ● |
| | 1/8 | KQ2LF06-01□1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 23.5 | 13.3 | 11.4 | 9 | 4.5 | 18 | — |
| | 1/4 | KQ2LF06-02□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 28 | 13.3 | 11.4 | 9 | 4.5 | 30.1 | — |
| | 3/8 | KQ2LF06-03□1 | 19 | 10.4 | 9.7 | 12 | 10 | 15.5 | 28.5 | 13.3 | 11.4 | 9 | 4.5 | 34 | — |

□: A (Brass), N (Brass + Electroless nickel plating)



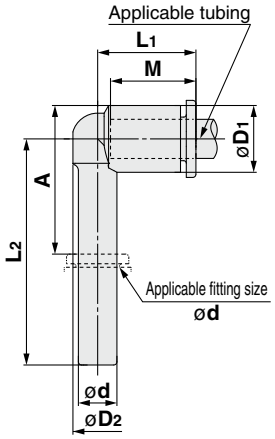

**Release button dimensions**



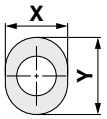

### Extended Plug-in Elbow: KQ2W



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø3.2 | KQ2W23-99A1 | 7.1 | 6.7 | 9.5 | 6.4 | 14.4 | 30.5 | 20.8 | 13.3 | 3 | 2.5 | 2.5 | 1 |
| ø4 | ø4 | KQ2W04-99A1 | 8.2 | 7.7 | 10 | 7.2 | 14.5 | 31.8 | 22.6 | 13.3 | 4.2 | 4.2 | 3 | 1.3 |
| ø6 | ø6 | KQ2W06-99A1 | 10.4 | 9.7 | 12 | 8 | 15.3 | 35.2 | 27.1 | 13.3 | 9 | 9 | 4 | 2 |




**Release button dimensions**



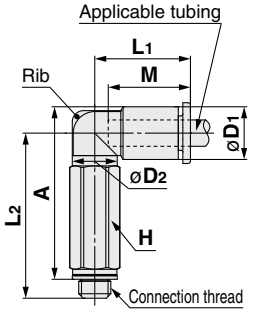
## Dimensions

### Extended Male Elbow: KQ2W (Gasket seal)

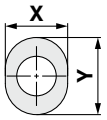


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2W23-M3G1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 22.5 | 23.4 | 13.3 | 0.8 | 0.8 | 1.2 | 4.8 | ● |
| | M5 x 0.8 | KQ2W23-M5□1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 25.2 | 25.7 | 13.3 | 2.8 | 2.4 | 2.5 | 5.8 | ● |
| ø4 | M3 x 0.5 | KQ2W04-M3G1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 23 | 24.5 | 13.3 | 0.8 | 0.8 | 1.2 | 4.9 | ● |
| | M5 x 0.8 | KQ2W04-M5□1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 25.7 | 26.8 | 13.3 | 3 | 3 | 2.5 | 5.8 | ● |
| ø6 | M5 x 0.8 | KQ2W06-M5□1 | 7 | 10.4 | 9.7 | 12 | 7 | 14.5 | 27.4 | 29.6 | 13.3 | 3 | 3 | 2.5 | 5.9 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



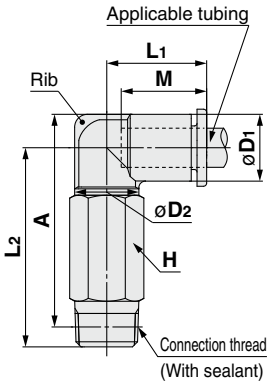

### Extended Male Elbow: KQ2W (Sealant)



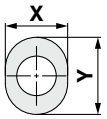
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2W23-01□S1 | 10 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 30.3 | 30.8 | 13.3 | 2.8 | 2.4 | 2.5 | 10.8 | — |
| | 1/4 | KQ2W23-02□S1 | 14 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 32.8 | 31.7 | 13.3 | 2.8 | 2.4 | 2.5 | 27.3 | — |
| ø4 | 1/8 | KQ2W04-01□S1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 29.9 | 30.9 | 13.3 | 4 | 4 | 3 | 11 | ● |
| | 1/4 | KQ2W04-02□S1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 33.3 | 32.7 | 13.3 | 4 | 4 | 3 | 27.5 | ● |
| ø6 | 1/8 | KQ2W06-01□S1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 31 | 33.1 | 13.3 | 10.9 | 8.6 | 4.5 | 11.4 | — |
| | 1/4 | KQ2W06-02□S1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 34.4 | 34.9 | 13.3 | 10.9 | 8.6 | 4.5 | 28 | — |
| | 3/8 | KQ2W06-03□S1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 35.7 | 35.8 | 13.3 | 10.9 | 8.6 | 4.5 | 47.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



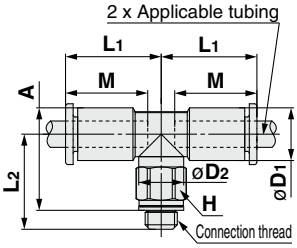
## Dimensions

### Male Branch Tee: KQ2T (Gasket seal)

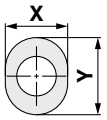


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2T23-M3G1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 13.8 | 14.7 | 13.3 | 0.9 | 0.9 | 1.2 | 3.1 |
| | M5 x 0.8 | KQ2T23-M5□1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.3 | 14.8 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø4 | M3 x 0.5 | KQ2T04-M3G1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.3 | 15.8 | 13.3 | 0.9 | 0.9 | 1.2 | 3.4 |
| | M5 x 0.8 | KQ2T04-M5□1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.8 | 15.9 | 13.3 | 4.5 | 4.5 | 2.5 | 3.9 |
| | M6 x 1.0 | KQ2T04-M6□1 | 8 | 8.2 | 7.7 | 10 | 7 | 15.4 | 15.8 | 15.9 | 13.3 | 4.5 | 4.5 | 2.5 | 4.9 |
| ø6 | M5 x 0.8 | KQ2T06-M5□1 | 7 | 10.4 | 9.7 | 12 | 7 | 14.5 | 16.5 | 18.7 | 13.3 | 4.5 | 4.5 | 2.5 | 4.4 |
| | M6 x 1.0 | KQ2T06-M6□1 | 8 | 10.4 | 9.7 | 12 | 7 | 14.5 | 17.5 | 18.7 | 13.3 | 4.5 | 4.5 | 2.5 | 5.4 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



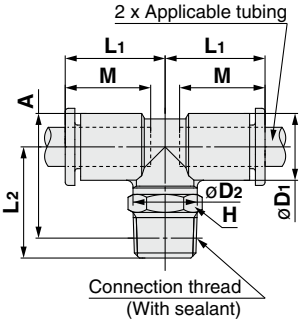

### Male Branch Tee: KQ2T (Sealant)



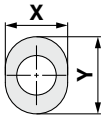
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2T23-01□S1 | 10 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.6 | 17.1 | 13.3 | 3.4 | 2.9 | 2.5 | 5.2 |
| | 1/4 | KQ2T23-02□S1 | 14 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.1 | 20 | 13.3 | 3.4 | 2.9 | 2.5 | 14.7 |
| ø4 | 1/8 | KQ2T04-01□S1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 17.2 | 13.3 | 6 | 4.1 | 3 | 5.5 |
| | 1/4 | KQ2T04-02□S1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.7 | 21.1 | 13.3 | 6 | 4.1 | 3 | 15 |
| ø6 | 1/8 | KQ2T06-01□S1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.3 | 19.4 | 13.3 | 13.9 | 11 | 4.5 | 6.1 |
| | 1/4 | KQ2T06-02□S1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 22.8 | 23.3 | 13.3 | 13.9 | 11 | 4.5 | 15.6 |
| | 3/8 | KQ2T06-03□S1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 24.1 | 24.2 | 13.3 | 13.9 | 11 | 4.5 | 27.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**

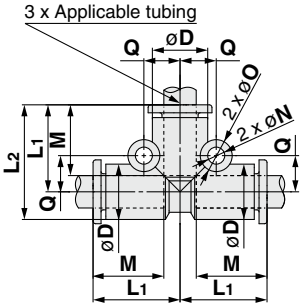


## Dimensions

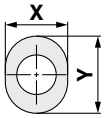
### Union Tee: KQ2T



| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | KQ2T23-00A1 | 7.1 | 6.7 | 9.5 | 14.9 | 18.5 | 13.3 | 5.4 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 2.3 |
| ø4 | KQ2T04-00A1 | 8.2 | 7.7 | 10 | 15.3 | 19.4 | 13.3 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 2.8 |
| ø6 | KQ2T06-00A1 | 10.4 | 9.7 | 12 | 16.3 | 21.5 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 3.8 |



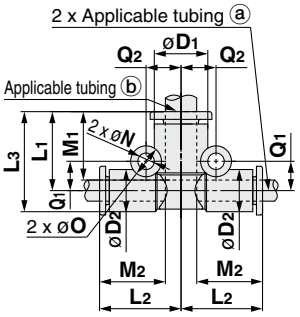

**Release button dimensions**



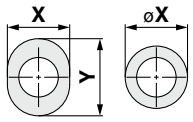

### Different Diameter Tee: KQ2T



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | øD1 | Release button dimensions ⓐ øX (X) | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø4 | KQ2T23-04A1 | 8.2 | 6.7 | 9.5 | 7.1 | 7.7 | 10 | 14.9 | 15.3 | 18.5 | 13.3 | 13.3 | 5.4 | 5.8 | 6 | 3.2 | 3.8 | 3.5 | 2.5 | 2.6 |
| ø4 | ø6 | KQ2T04-06A1 | 10.4 | 7.7 | 10 | 8.2 | 9.7 | 12 | 15.3 | 16.3 | 19.4 | 13.3 | 13.3 | 5.7 | 6.8 | 6 | 3.2 | 7.1 | 6.6 | 3 | 3.3 |
| ø6 | ø8 | KQ2T06-08A1 | 13.2 | 9.7 | 12 | 10.4 | 13 | — | 17.2 | 17.3 | 22.4 | 14.2 | 13.3 | 7.3 | 8.4 | 8 | 4.2 | 16.4 | 16.4 | 4.5 | 5.3 |




**Release button dimensions**

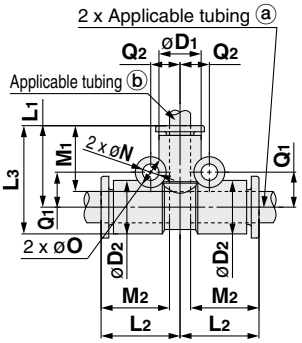



Applicable tubing O.D.: ø3.2, ø4, ø6

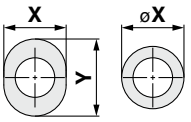
### Different Diameter Tee: KQ2T



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | øD1 | Release button dimensions ⓐ øX (X) | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø6 | ø4 | KQ2T06-04A1 | 8.2 | 9.7 | 12 | 10.4 | 7.7 | 10 | 16.3 | 15.3 | 21.5 | 13.3 | 13.3 | 6.8 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |
| ø8 | ø6 | KQ2T08-06A1 | 10.4 | 13 | — | 13.2 | 9.7 | 12 | 17.3 | 17.2 | 23.9 | 13.3 | 14.2 | 8.4 | 7.3 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 6 |




**Release button dimensions**



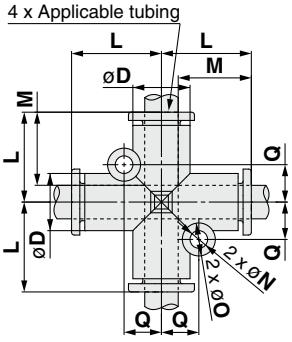

Applicable tubing O.D.: ø4, ø6

## Dimensions

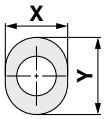
### Cross: KQ2TW



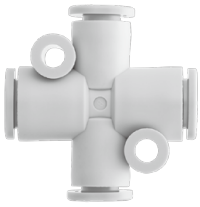
| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions X | Release button dimensions Y | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | KQ2TW04-00A1 | 8.2 | 7.7 | 10 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |
| ø6 | KQ2TW06-00A1 | 10.4 | 9.7 | 12 | 16.3 | 6.8 | 13.3 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 4.9 |



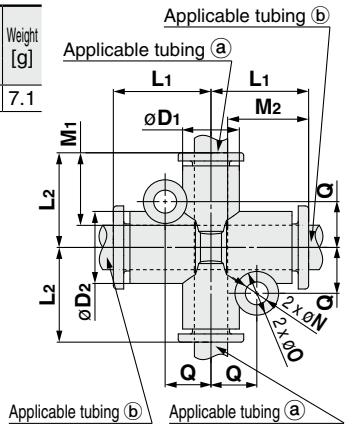

**Release button dimensions**



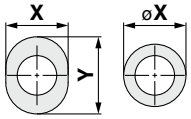

### Different Diameter Cross: KQ2TX



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | øD1 | Release button dimensions ⓐ X | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L1 | L2 | Q | M1 | M2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø6 | ø8 | KQ2TX06-08A1 | 10.4 | 9.7 | 12 | 13.2 | 13 | — | 17.2 | 17.3 | 8.4 | 13.3 | 14.2 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 7.1 |




**Release button dimensions**

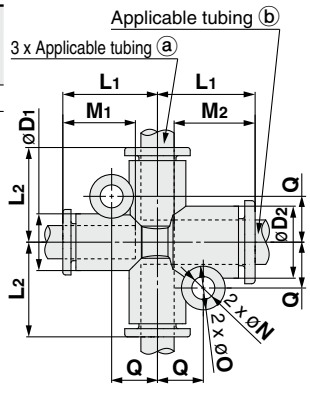



Applicable tubing O.D.: ø6

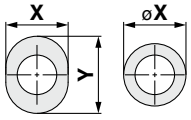
### Different Diameter Cross: KQ2TY



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | øD1 | Release button dimensions ⓐ X | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L1 | L2 | Q | M1 | M2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø6 | ø8 | KQ2TY06-08A1 | 10.4 | 9.7 | 12 | 13.2 | 13 | — | 17.3 | 17.2 | 8.4 | 13.3 | 14.2 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 6.5 |




**Release button dimensions**




Applicable tubing O.D.: ø6

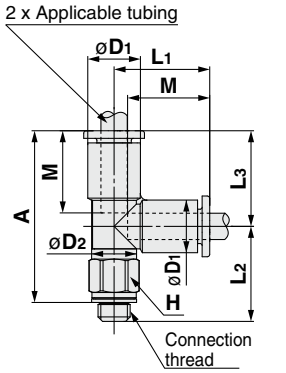
## Dimensions

### Male Run Tee: KQ2Y (Gasket seal)

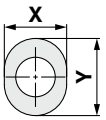


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2Y23-M3G1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 13.8 | 15.3 | 26.5 | 13.3 | 0.9 | 0.9 | 1.2 | 3.1 |
| | M5 x 0.8 | KQ2Y23-M5□1 | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.3 | 15.3 | 26.6 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø4 | M3 x 0.5 | KQ2Y04-M3G1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.3 | 15.4 | 27.1 | 13.3 | 0.9 | 0.9 | 1.2 | 3.4 |
| | M5 x 0.8 | KQ2Y04-M5□1 | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.8 | 15.4 | 27.2 | 13.3 | 4.5 | 4.5 | 2.5 | 3.9 |
| | M6 x 1.0 | KQ2Y04-M6□1 | 8 | 8.2 | 7.7 | 10 | 7 | 15.4 | 15.8 | 15.4 | 27.2 | 13.3 | 4.5 | 4.5 | 2.5 | 4.9 |
| ø6 | M5 x 0.8 | KQ2Y06-M5□1 | 7 | 10.4 | 9.7 | 12 | 7 | 16.3 | 16.5 | 16.3 | 29.8 | 13.3 | 4.5 | 4.5 | 2.5 | 4.6 |
| | M6 x 1.0 | KQ2Y06-M6□1 | 8 | 10.4 | 9.7 | 12 | 7 | 16.3 | 17.5 | 16.3 | 29.8 | 13.3 | 4.5 | 4.5 | 2.5 | 5.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



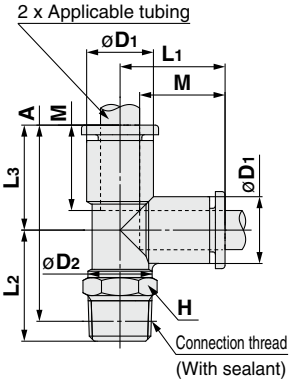

### Male Run Tee: KQ2Y (Sealant)



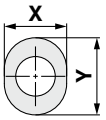
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2Y23-01□S1 | 10 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 16.6 | 14.9 | 28.5 | 13.3 | 3.4 | 2.9 | 2.5 | 5.3 |
| | 1/4 | KQ2Y23-02□S1 | 14 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 21.1 | 14.9 | 31.4 | 13.3 | 3.4 | 2.9 | 2.5 | 14.7 |
| ø4 | 1/8 | KQ2Y04-01□S1 | 10 | 8.2 | 7.7 | 10 | 10 | 15.3 | 16.2 | 15.3 | 28.4 | 13.3 | 6.4 | 4.4 | 3 | 5.6 |
| | 1/4 | KQ2Y04-02□S1 | 14 | 8.2 | 7.7 | 10 | 10 | 15.3 | 21.7 | 15.3 | 32.3 | 13.3 | 6.4 | 4.4 | 3 | 15 |
| ø6 | 1/8 | KQ2Y06-01□S1 | 10 | 10.4 | 9.7 | 12 | 10 | 16.3 | 17.3 | 16.3 | 30.5 | 13.3 | 13.4 | 10.6 | 4.5 | 6.2 |
| | 1/4 | KQ2Y06-02□S1 | 14 | 10.4 | 9.7 | 12 | 10 | 16.3 | 22.8 | 16.3 | 34.4 | 13.3 | 13.4 | 10.6 | 4.5 | 15.8 |
| | 3/8 | KQ2Y06-03□S1 | 17 | 10.4 | 9.7 | 12 | 10 | 16.3 | 24.1 | 16.3 | 35.3 | 13.3 | 13.4 | 10.6 | 4.5 | 27.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



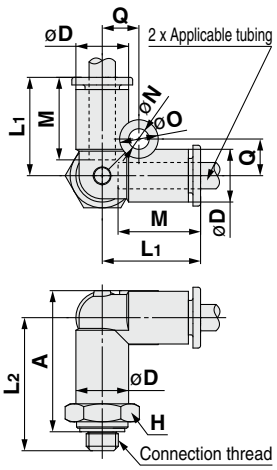
## Dimensions

### Male Delta Union: KQ2D (Gasket seal)

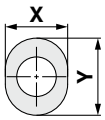


| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2D04-M5□1 | 10 | 8.2 | 7.7 | 10 | 15.8 | 20.7 | 21.8 | 13.3 | 5.7 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 6.6 |
| | M6 x 1.0 | KQ2D04-M6□1 | 10 | 8.2 | 7.7 | 10 | 15.8 | 21.7 | 21.8 | 13.3 | 5.7 | 6 | 3.2 | 4.3 | 4.3 | 3 | 6.4 |
| ø6 | M5 x 0.8 | KQ2D06-M5□1 | 12 | 10.4 | 9.7 | 12 | 16.8 | 21.7 | 23.9 | 13.3 | 6.7 | 6 | 3.2 | 4.3 | 4.3 | 1.8 | 9.8 |
| | M6 x 1.0 | KQ2D06-M6□1 | 12 | 10.4 | 9.7 | 12 | 16.8 | 22.7 | 23.9 | 13.3 | 6.7 | 6 | 3.2 | 4.3 | 4.3 | 3 | 9.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



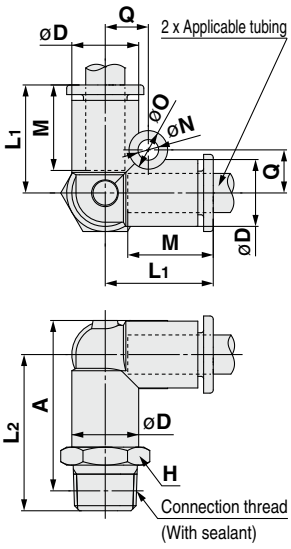

### Male Delta Union: KQ2D (Sealant)



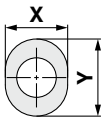
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A*1 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2D04-01□S1 | 10 | 8.2 | 7.7 | 10 | 15.8 | 23.3 | 24.3 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 9.2 |
| | 1/4 | KQ2D04-02□S1 | 14 | 8.2 | 7.7 | 10 | 15.8 | 27.7 | 27.1 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 19 |
| ø6 | 1/8 | KQ2D06-01□S1 | 12 | 10.4 | 9.7 | 12 | 16.8 | 24.3 | 26.4 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 10.2 |
| | 1/4 | KQ2D06-02□S1 | 14 | 10.4 | 9.7 | 12 | 16.8 | 28.7 | 29.2 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 19.1 |
| | 3/8 | KQ2D06-03□S1 | 17 | 10.4 | 9.7 | 12 | 16.8 | 30.1 | 30.2 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 31 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**

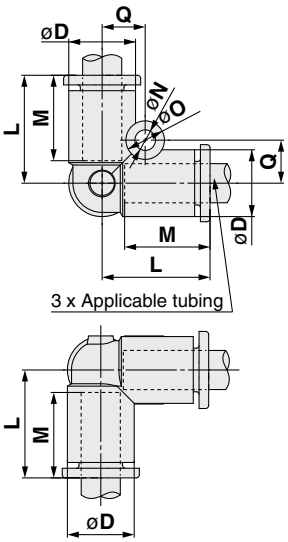


## Dimensions

### Delta Union: KQ2D



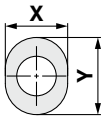
| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions | | L | M | Q | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | X | Y | | | | | | Nylon | Urethane | | |
| ø4 | **KQ2D04-00A1** | 8.2 | 7.7 | 10 | 15.8 | 13.3 | 5.7 | 6 | 3.2 | 6 | 4.1 | 3 | 2.7 |
| ø6 | **KQ2D06-00A1** | 10.4 | 9.7 | 12 | 16.8 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 4.5 | 3.8 |







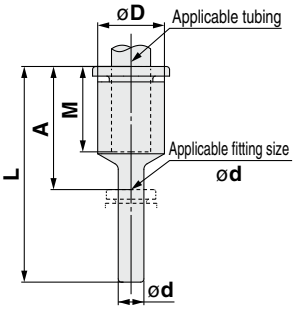
**Release button dimensions**



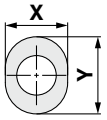

### Plug-in Reducer: KQ2R



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | øD | Release button dimensions | | L | A | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | X | Y | | | | Nylon | Urethane | | |
| ø3.2 | ø4 | **KQ2R23-04A1** | 7.1 | 6.7 | 9.5 | 28.6 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø6 | **KQ2R23-06A1** | 7.1 | 6.7 | 9.5 | 29.1 | 15.8 | 13.3 | 3.4 | 2.9 | 2.5 | 1 |
| ø4 | ø6 | **KQ2R04-06A1** | 8.2 | 7.7 | 10 | 28.6 | 15.3 | 13.3 | 5.6 | 4 | 3 | 1.1 |
| | ø8 | **KQ2R04-08A1** | 8.2 | 7.7 | 10 | 29.6 | 15.4 | 13.3 | 5.6 | 4 | 3 | 1.3 |
| | ø10 | **KQ2R04-10A1** | 10.4 | 7.7 | 10 | 31.7 | 16.1 | 13.3 | 5.6 | 4 | 3 | 2.2 |
| ø6 | ø4 | **KQ2R06-04A1** | 10.4 | 9.7 | 12 | 33.6 | 20.3 | 13.3 | 4 | 4 | 2.5 | 1.4 |
| | ø8 | **KQ2R06-08A1** | 10.4 | 9.7 | 12 | 31.6 | 17.4 | 13.3 | 13.1 | 10.4 | 4.5 | 1.7 |
| | ø10 | **KQ2R06-10A1** | 10.4 | 9.7 | 12 | 33.9 | 18.3 | 13.3 | 13.1 | 10.4 | 4.5 | 2.1 |
| | ø12 | **KQ2R06-12A1** | 12 | 9.7 | 12 | 35.7 | 18.7 | 13.3 | 13.1 | 10.4 | 4.5 | 3.2 |

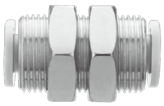



**Release button dimensions**



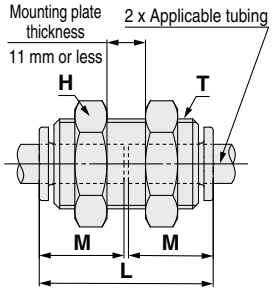
## Dimensions

### Bulkhead Union: KQ2E (Interchangeable with KQ)

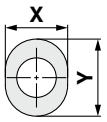


| Applicable tubing O.D. [mm] | Model | T (M) | H (Width across flats) | Release button dimensions X | Release button dimensions Y | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | KQ2E23-00□1 | M12 x 1 | 14 | 6.7 | 9.5 | 27.3 | 13 | 13.3 | 3.4 | 2.9 | 2.5 | 24.1 |
| ø4 | KQ2E04-00□1 | M12 x 1 | 14 | 7.7 | 10 | 27.3 | 13 | 13.3 | 5.6 | 4 | 3 | 22.9 |
| ø6 | KQ2E06-00□1 | M14 x 1 | 17 | 9.7 | 12 | 27.3 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 28 |

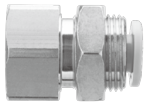
□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

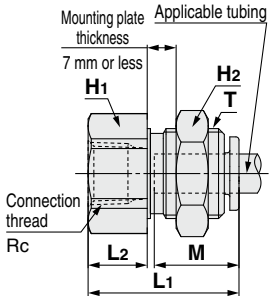



### Bulkhead Connector: KQ2E

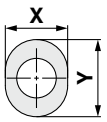


| Applicable tubing O.D. [mm] | Connection thread Rc | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Release button dimensions X | Release button dimensions Y | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/4 | KQ2E23-02□1 | M12 x 1 | 17 | 14 | 28.7 | 14.3 | 6.7 | 9.5 | 13 | 13.3 | 3.4 | 2.9 | 2.5 | 31.2 |
| ø4 | 1/8 | KQ2E04-01□1 | M12 x 1 | 14 | 14 | 24.4 | 10 | 7.7 | 10 | 13 | 13.3 | 5.6 | 4 | 3 | 21.2 |
| | 1/4 | KQ2E04-02□1 | M12 x 1 | 17 | 14 | 29 | 14.6 | 7.7 | 10 | 13 | 13.3 | 5.6 | 4 | 3 | 30.9 |
| ø6 | 1/8 | KQ2E06-01□1 | M14 x 1 | 17 | 17 | 23.6 | 9.2 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 28.9 |
| | 1/4 | KQ2E06-02□1 | M14 x 1 | 17 | 17 | 28.4 | 14 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 32.4 |
| | 3/8 | KQ2E06-03□1 | M14 x 1 | 19 | 17 | 30.7 | 16.3 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 35.9 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

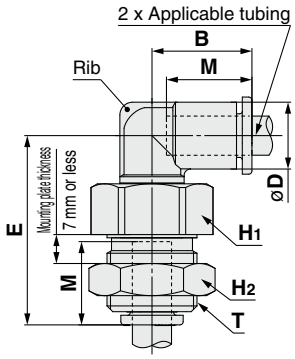



### Bulkhead Male Elbow: KQ2LE

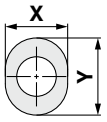


| Applicable tubing O.D. [mm] | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | B | E | øD | Release button dimensions X | Release button dimensions Y | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | KQ2LE04-00□1 | M12 x 1 | 14 | 14 | 14.8 | 28.5 | 8.2 | 7.7 | 10 | 13 | 13.3 | 4.2 | 4.2 | 3 | 21.2 | ● |
| ø6 | KQ2LE06-00□1 | M14 x 1 | 17 | 17 | 15.5 | 29.6 | 10.4 | 9.7 | 12 | 15 | 13.3 | 11.4 | 9 | 4.5 | 29.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

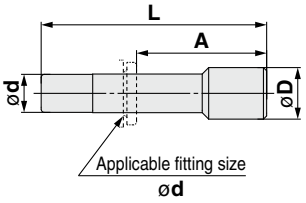


## Dimensions

### Plug: KQ2P



| Applicable fitting size ød | Model | øD | L | A | Weight [g] |
|---|---|---|---|---|---|
| ø2 | KJP-02 | 3 | 17 | 5.1 | 0.1 |
| ø3.2 | KQ2P-23 | 5 | 31.5 | 18.2 | 1 |
| ø4 | KQ2P-04 | 6 | 32 | 18.7 | 1 |
| ø6 | KQ2P-06 | 8 | 35 | 21.7 | 1 |
| ø8 | KQ2P-08 | 10 | 39 | 24.8 | 2 |
| ø10 | KQ2P-10 | 12 | 43 | 27.4 | 3.5 |
| ø12 | KQ2P-12 | 14 | 45.5 | 28.5 | 5 |
| ø16 | KQ2P-16 | 20.9 | 47 | 26.4 | 8 |

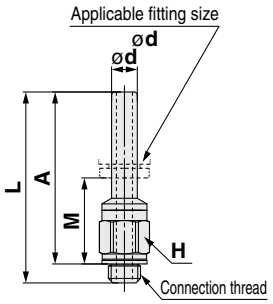



### Adapter: KQ2N (Gasket seal)



| Applicable fitting size ød | Connection thread M | Model | H (Width across flats) | L | A | M | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2N04-M5□ | 7 | 29.7 | 26.7 | 13.4 | 2.5 | 2.4 |
| ø6 | M5 x 0.8 | KQ2N06-M5□ | 7 | 29.7 | 26.7 | 13.4 | 2.5 | 2.6 |

□: A (Brass), N (Brass + Electroless nickel plating)



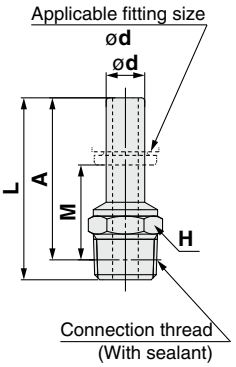

### Adapter: KQ2N (Sealant)



| Applicable fitting size ød | Connection thread R | Model | H (Width across flats) | L | A*1 | M | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2N04-01□S | 10 | 28.3 | 25.2 | 11.9 | 2.5 | 4 |
| ø6 | 1/8 | KQ2N06-01□S | 10 | 28.3 | 25.2 | 11.9 | 4 | 4.1 |
| | 1/4 | KQ2N06-02□S | 14 | 32.8 | 28.1 | 14.8 | 4 | 13.6 |
| ø8 | 1/4 | KQ2N08-02□S | 14 | 35.9 | 31.2 | 17 | 6 | 15.7 |
| | 3/8 | KQ2N08-03□S | 17 | 36 | 30.9 | 16.7 | 6 | 22.7 |
| ø10 | 3/8 | KQ2N10-03□S | 17 | 40.6 | 35.5 | 19.9 | 7.5 | 19.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

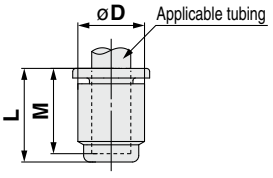
*1 Reference dimensions after installation of R thread



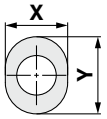

### Tube Cap: KQ2C



| Applicable tubing O.D. [mm] | Model | øD | Release button dimensions | | L | M | Weight [g] |
|---|---|---|---|---|---|---|---|
| | | | X | Y | | | |
| ø4 | KQ2C04-00A1 | 8.2 | 7.7 | 10 | 14.5 | 13.3 | 0.8 |
| ø6 | KQ2C06-00A1 | 10.4 | 9.7 | 12 | 14.6 | 13.3 | 1.1 |




**Release button dimensions**

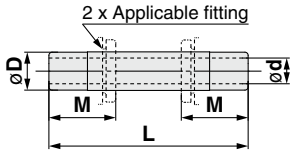


## Dimensions

### Nipple: KQ2N



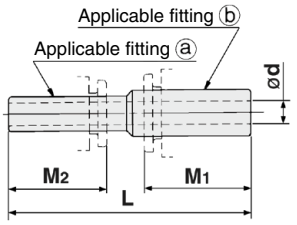
| Applicable fitting ø**D** | Model | **L** | **M** | ø**d** | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|
| ø**4** | **KQ2N04-99** | 37 | 13.3 | 2.5 | 2.5 | 1 |
| ø**6** | **KQ2N06-99** | 39 | 13.3 | 4 | 4 | 2 |
| ø**8** | **KQ2N08-99** | 43 | 14.2 | 6 | 6 | 2 |
| ø**10** | **KQ2N10-99** | 49 | 15.6 | 7.5 | 7.5 | 4 |
| ø**12** | **KQ2N12-99** | 52 | 17 | 9 | 9 | 3.3 |
| ø**16** | **KQ2N16-99** | 57 | 20.6 | 13 | 13 | 4.8 |



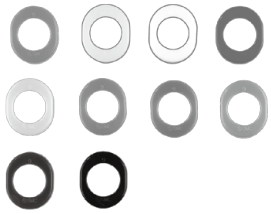

### Reducer Nipple: KQ2N



| Applicable fitting ⓐ | Applicable fitting ⓑ | Model | **L** | **M1** | **M2** | ø**d** Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|
| ø**4** | ø**6** | **KQ2N04-06** | 38 | 13.3 | 13.3 | 2.5 | 2 |
| ø**6** | ø**8** | **KQ2N06-08** | 42 | 14.2 | 13.3 | 4 | 2 |
| ø**8** | ø**10** | **KQ2N08-10** | 47 | 15.6 | 14.2 | 6 | 2 |
| ø**10** | ø**12** | **KQ2N10-12** | 51 | 17 | 15.6 | 7.5 | 3.1 |
| ø**12** | ø**16** | **KQ2N12-16** | 55 | 20.6 | 17 | 9 | 4.9 |

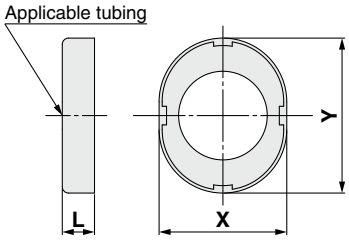



### Color Cap: KQ2C



| Applicable tubing O.D. [mm] | Model | **X** | **Y** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø**3.2** | **KQ2C-23□B** | 7.3 | 10 | 2.6 | 0.1 |
| ø**4** | **KQ2C-04□B** | 8.3 | 10.5 | 2.6 | 0.1 |
| ø**6** | **KQ2C-06□B** | 10.3 | 12.5 | 2.6 | 0.1 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Light gray |
| **X41** | With fixed orifice∗2 |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Clean Series

Please consult with SMC separately for applicable models.

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H06-02NS1** (With thread)

**10-KQ2H06-00A1** (Without thread)

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-3G2** | M3 |
| | **M-5G2** | M5 |
| | **M-6G** | M6 |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01A** | KQ2E23-00A1, KQ2E04-00A1, KQ2E23-02A1 |
| | | KQ2E04-01A1, KQ2E04-02A1, KQ2LE04-00A1 |
| | **KQ06-P01A** | KQ2E06-00A1, KQ2E06-01A1, KQ2E06-02A1 |
| | | KQ2E06-03A1, KQ2LE06-00A1 |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01N** | KQ2E23-00N1, KQ2E04-00N1, KQ2E23-02N1 |
| | | KQ2E04-01N1, KQ2E04-02N1, KQ2LE04-00N1 |
| | **KQ06-P01N** | KQ2E06-00N1, KQ2E06-01N1, KQ2E06-02N1 |
| | | KQ2E06-03N1, KQ2LE06-00N1 |

# Oval Type Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

# KQ2 Series

**Guide**

**Chuck**

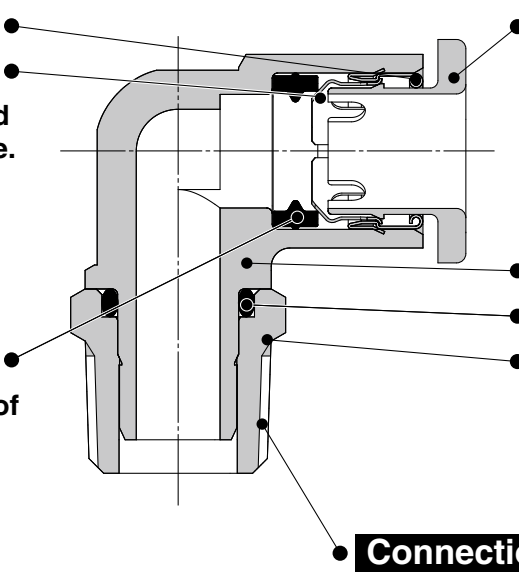
**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

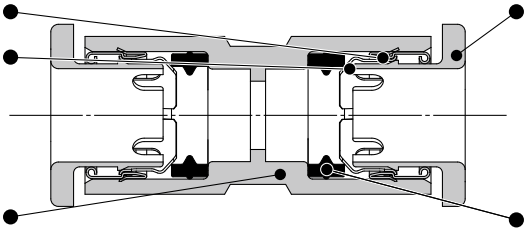
**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

UNF, NPT



**Guide**

**Chuck**

**Body**

**Release button (Orange)**

**Seal**

∗ Fittings without thread portion, and with all resin body material are copper free specification.

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



**Made to Order**
**(Refer to page 48 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water∗1 |
| **Operating pressure range**∗2 | | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | −5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread) |
| | **Nut section** | JIS B0208 (UNF thread) |
| **Seal on the threads** | | With sealant |

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT, PP |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

### Threaded Type

**KQ2 H 05 – 34 A S 1**

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 34: Port size/Applicable tubing O.D.
- A: Thread material/Surface treatment
- S: Male thread seal method
- 1: Oval type release button

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **LF** | Female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **E** | Bulkhead union |
| | Bulkhead connector |
| **LE** | Bulkhead male elbow |

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **32** | 10-32UNF |
| | **33** | NPT1/16 |
| | **34** | NPT1/8 |
| | **35** | NPT1/4 |
| Tubing connection | **00**∗1 | Same diameter tubing |

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |

**Spare Parts**

Use the part number below to order the gasket for sealing 10-32UNF thread.
Gasket for 10-32UNF: M-5G2

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Tube – Tube Type

**KQ2 H 05 – 00 A 1**

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 00: Port size/Applicable tubing O.D.
- A: Oval type release button

**Model**

| Symbol | Model |
|---|---|
| **H** | Straight union |
| | Different diameter straight |
| **L** | Union elbow |
| | Plug-in elbow |
| | Reducer elbow |
| **R** | Plug-in reducer |
| **T** | Union tee |
| | Different diameter tee |
| **TW** | Cross |

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

| Symbol | | Size |
|---|---|---|
| Tubing (Rod) connection | **00** | Same diameter tubing |
| | **99** | Same diameter rod |
| Different dia. tubing (Reducer) | **01** | ø1/8" |
| | **03** | ø5/32" |
| | **05** | ø3/16" |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |

**Accessories**

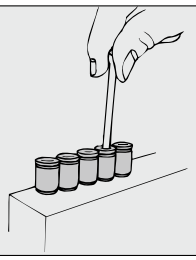
| Symbol | Name |
|---|---|
| **KQ2N** | Nipple |
| | Reducer nipple |
| **KQ2C** | Tube cap |
| **KQ2P** | Plug |

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.34



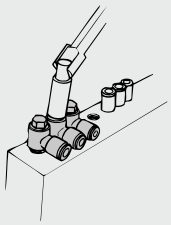
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.37



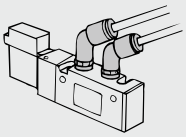
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.37



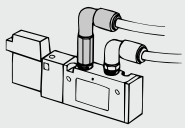
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.41



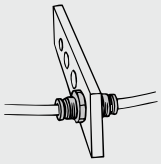
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.45



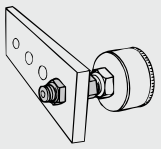
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.45



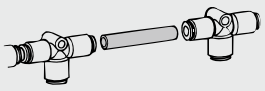
Use to connect a male thread and tubing through a panel, etc.



**Nipple**
**KQ2N** P.47



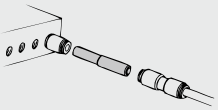
Use to connect One-touch fittings.



**Reducer nipple**
**KQ2N** P.47



Use to connect One-touch fittings of different sizes.



**Male connector**
**KQ2H** P.33



Use to pipe a female thread in the same direction. Most general model.

**Hexagon socket head universal male elbow**
**KQ2VS** P.38



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Union elbow**
**KQ2L** P.35



Use to connect tubing at right angles.

**Female connector**
**KQ2F** P.34



Use to pipe a male thread of a pressure gauge, etc.

**Universal female elbow**
**KQ2VF** P.38



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Plug-in elbow**
**KQ2L** P.36



Use to change the tube direction of One-touch fittings by 90°.

**Straight union**
**KQ2H** P.33



Use to connect tubing in the same direction.

**Female elbow**
**KQ2LF** P.36



Use to pipe a male thread at right angles.

**Reducer elbow**
**KQ2L** P.36



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

**Different diameter straight**
**KQ2H** P.33



Use to connect tubing of different sizes.

**Double universal male elbow**
**KQ2VD** P.39



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Male branch tee**
**KQ2T** P.42



Use to branch a female thread at both 90° angles.

**Male elbow**
**KQ2L** P.35



Use to pipe a female thread at right angles. Most general model.

**Triple universal male elbow**
**KQ2VT** P.40



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

**Union tee**
**KQ2T** P.43



Use to branch tubing at both 90° angles.

**Different diameter tee**
**KQ2T** P.43



Use to connect tubing of reduced size for branching at both 90° angles.

**Cross**
**KQ2TW** P.43



Use to four-branch a line.

**Male run tee**
**KQ2Y** P.44



Use to branch a female thread in the same direction and at a 90° angle.

**Plug-in reducer**
**KQ2R** P.45



Use to change size of One-touch fittings.

**Bulkhead male elbow**
**KQ2LE** P.46



Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

**Tube cap**
**KQ2C** P.46



Use to plug unused tubing.

**Plug**
**KQ2P** P.46



Use to plug unused One-touch fittings.

**Color cap**
**KQ2C** P.47



Mount onto the release button and use different colors for piping according to applications.

**The following models do not support oval type release buttons. Refer to the round type (from page 133).**

**Branch universal male elbow**
**KQ2Z** P.146



**Double branch universal male elbow**
**KQ2ZD** P.146



**Triple branch universal male elbow**
**KQ2ZT** P.147



**Branch "Y"**
**KQ2U** P.151



**Union "Y"**
**KQ2U** P.152



**Different diameter union "Y"**
**KQ2U** P.152



**Plug-in "Y"**
**KQ2U** P.152



**Different diameter plug-in "Y"**
**KQ2X** P.153



⚠ Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

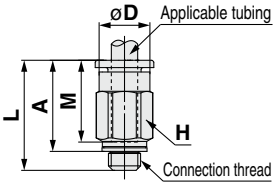
## Dimensions

### Male Connector: KQ2H (Gasket seal)

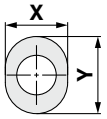


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2H01-32□1** | 7 | 6.9 | 6.7 | 9.5 | 17.4 | 14.4 | 13.3 | 3 | 2.5 | 2.3 | 2.7 |
| ø5/32 | 10-32UNF | **KQ2H03-32□1** | 8 | 7.9 | 7.7 | 10 | 17.6 | 14.6 | 13.3 | 3.3 | 3.3 | 2.3 | 3.3 |
| ø3/16 | 10-32UNF | **KQ2H05-32□1** | 8 | 9 | 8.4 | 11 | 17.7 | 14.7 | 13.3 | 3.4 | 3.4 | 2.3 | 3.4 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



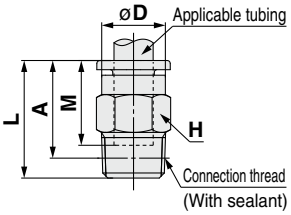

### Male Connector: KQ2H (Sealant)



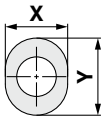
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2H01-33□S1** | 9.5 | 6.9 | 6.7 | 9.5 | 19.3 | 15.2 | 13.3 | 3 | 2.5 | 2.5 | 6 |
| | 1/8 | **KQ2H01-34□S1** | 11.11 | — | 6.7 | 9.5 | 14 | 10.8 | 13.3 | 3 | 2.5 | 2.5 | 7.1 |
| | 1/4 | **KQ2H01-35□S1** | 14.29 | — | 6.7 | 9.5 | 16.7 | 12.3 | 13.3 | 3.4 | 2.9 | 2.5 | 16.2 |
| ø5/32 | 1/16 | **KQ2H03-33□S1** | 9.5 | 7.9 | 7.7 | 10 | 20 | 15.9 | 13.3 | 4.8 | 3.4 | 3 | 6.1 |
| | 1/8 | **KQ2H03-34□S1** | 11.11 | — | 7.7 | 10 | 14 | 10.8 | 13.3 | 4.8 | 3.4 | 3 | 6.5 |
| | 1/4 | **KQ2H03-35□S1** | 14.29 | — | 7.7 | 10 | 16.7 | 12.3 | 13.3 | 4.8 | 3.4 | 3 | 15.6 |
| ø3/16 | 1/8 | **KQ2H05-34□S1** | 11.11 | 8.55 | 8.4 | 11 | 17.4 | 14.2 | 13.3 | 7.8 | 6.5 | 3.5 | 7.4 |
| | 1/4 | **KQ2H05-35□S1** | 14.29 | — | 8.4 | 11 | 16.7 | 12.3 | 13.3 | 7.8 | 6.5 | 3.5 | 14.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



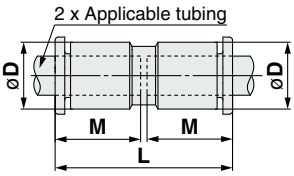

**Release button dimensions**



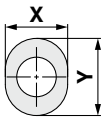

### Straight Union: KQ2H



| Applicable tubing O.D. [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2H01-00A1** | 7.1 | 6.7 | 9.5 | 27.6 | 13.3 | 3.4 | 2.9 | 2.5 | 1.4 |
| ø5/32 | **KQ2H03-00A1** | 8.2 | 7.7 | 10 | 27.6 | 13.3 | 5.6 | 4 | 3 | 1.6 |
| ø3/16 | **KQ2H05-00A1** | 9.1 | 8.4 | 11 | 27.6 | 13.3 | 7.8 | 6.5 | 3.5 | 1.9 |



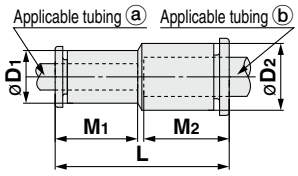

**Release button dimensions**



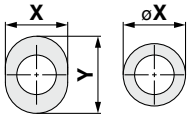

### Different Diameter Straight: KQ2H



| Applicable tubing O.D. [inch] ⓐ | Applicable tubing O.D. [inch] ⓑ | Model | øD1 | Release button dimensions ⓐ X | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L | M1 | M2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2H01-03A1** | 7.1 | 6.7 | 9.5 | 8.2 | 7.7 | 10 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.5 |
| | ø1/4 | **KQ2H01-07A1** | 7.1 | 6.7 | 9.5 | 11.1 | 10.9 | — | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 2 |
| ø5/32 | ø3/16 | **KQ2H03-05A1** | 8.2 | 7.7 | 10 | 9.1 | 8.4 | 11 | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 1.8 |
| | ø1/4 | **KQ2H03-07A1** | 8.2 | 7.7 | 10 | 11.1 | 10.9 | — | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 2.1 |
| ø3/16 | ø1/4 | **KQ2H05-07A1** | 9.1 | 8.4 | 11 | 11.1 | 10.9 | — | 27.6 | 13.3 | 13.3 | 7.8 | 6.5 | 3.5 | 2.2 |




**Release button dimensions**




Applicable tubing O.D.: ø1/8", ø5/32", ø3/16"

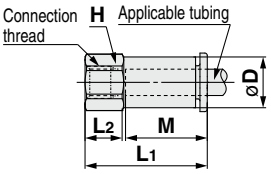
## Dimensions

### Female Connector: KQ2F

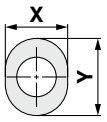


| Applicable tubing O.D. [inch] | Connection thread UNF, NPT | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2F01-32□1** | 7 | 6.9 | 6.7 | 9.5 | 19.7 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.4 |
| | 1/8 | **KQ2F01-34□1** | 14.29 | 6.9 | 6.7 | 9.5 | 25 | 9.5 | 13.3 | 3 | 2.5 | 2.5 | 13.4 |
| | 1/4 | **KQ2F01-35□1** | 17.46 | 6.9 | 6.7 | 9.5 | 29.8 | 13.3 | 13.3 | 3 | 2.5 | 2.5 | 24.4 |
| ø5/32 | 10-32UNF | **KQ2F03-32□1** | 8 | 7.9 | 7.7 | 10 | 19.5 | 5.7 | 13.3 | 4 | 4 | 3 | 4.5 |
| | 1/8 | **KQ2F03-34□1** | 14.29 | 7.9 | 7.7 | 10 | 24.8 | 9.5 | 13.3 | 5.6 | 4 | 3 | 13.7 |
| | 1/4 | **KQ2F03-35□1** | 17.46 | 7.9 | 7.7 | 10 | 29.7 | 13.3 | 13.3 | 5.6 | 4 | 3 | 24.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

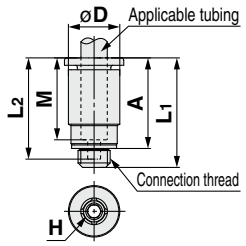



### Hexagon Socket Head Male Connector: KQ2S (Gasket seal)

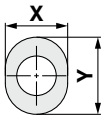


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2S01-32□1** | 2 | 7 | 6.7 | 9.5 | 17.5 | 16.3 | 14.5 | 13.3 | 2.5 | 2.5 | 2 | 2.6 |
| ø5/32 | 10-32UNF | **KQ2S03-32□1** | 2.5 | 8 | 7.7 | 10 | 18.6 | 17.8 | 15.6 | 13.3 | 4 | 4 | 2.5 | 3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



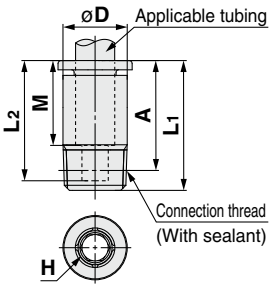

### Hexagon Socket Head Male Connector: KQ2S (Sealant)



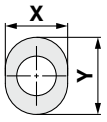
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | 1/16 | **KQ2S03-33□S1** | 2.78 | 8 | 7.7 | 10 | 19.8 | 18.8 | 15.7 | 13.3 | 4.1 | 3.6 | 2.8 | 4.5 |
| | 1/8 | **KQ2S03-34□S1** | 2.78 | 10.3 | 7.7 | 10 | 17.3 | 16.3 | 14.1 | 13.3 | 4.1 | 3.6 | 2.8 | 6 |
| ø3/16 | 1/8 | **KQ2S05-34□S1** | 3.57 | 11 | 8.4 | 11 | 19.8 | 18.8 | 16.6 | 13.3 | 7.8 | 6.5 | 3.6 | 7.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**



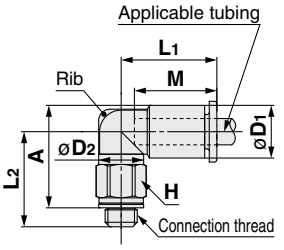
## Dimensions

### Male Elbow: KQ2L (Gasket seal)

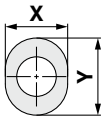


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2L01-32□1** | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.2 | 14.8 | 13.3 | 2.6 | 2.2 | 2.5 | 3 | ● |
| ø5/32 | 10-32UNF | **KQ2L03-32□1** | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.7 | 15.8 | 13.3 | 3.5 | 3.5 | 2.5 | 3.1 | ● |
| ø3/16 | 10-32UNF | **KQ2L05-32□1** | 7 | 9.1 | 8.4 | 11 | 7 | 14.5 | 15.8 | 17.4 | 13.3 | 3.5 | 3.5 | 2.5 | 3.2 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



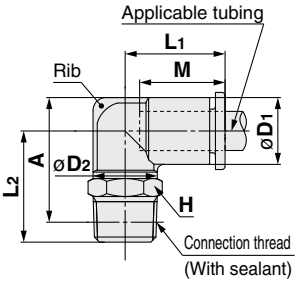

### Male Elbow: KQ2L (Sealant)



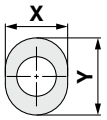
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2L01-33□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 24.3 | 23.8 | 13.3 | 3 | 2.5 | 2.5 | 9.1 | — |
| | 1/8 | **KQ2L01-34□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.7 | 17.1 | 13.3 | 3 | 2.5 | 2.5 | 5.5 | — |
| | 1/4 | **KQ2L01-35□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.1 | 20.3 | 13.3 | 3 | 2.5 | 2.5 | 15 | — |
| ø5/32 | 1/16 | **KQ2L03-33□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 23.8 | 23.8 | 13.3 | 4.6 | 3.3 | 3 | 9.3 | ● |
| | 1/8 | **KQ2L03-34□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 17.1 | 13.3 | 4.6 | 3.3 | 3 | 5.6 | ● |
| | 1/4 | **KQ2L03-35□S1** | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.6 | 21.3 | 13.3 | 4.6 | 3.3 | 3 | 15.2 | ● |
| ø3/16 | 1/8 | **KQ2L05-34□S1** | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 18.1 | 13.3 | 6.8 | 5.6 | 3.5 | 5.8 | — |
| | 1/4 | **KQ2L05-35□S1** | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 22.1 | 22.3 | 13.3 | 6.8 | 5.6 | 3.5 | 15.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



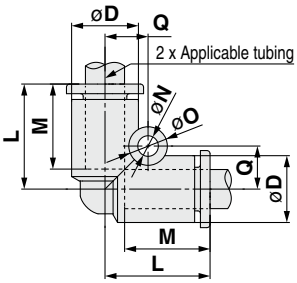

**Release button dimensions**



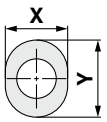

### Union Elbow: KQ2L



| Applicable tubing O.D. [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2L01-00A1** | 7.1 | 6.7 | 9.5 | 14.9 | 5.4 | 13.3 | 6 | 3.2 | 3 | 2.5 | 2.5 | 1.6 |
| ø5/32 | **KQ2L03-00A1** | 8.2 | 7.7 | 10 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 4.2 | 4.2 | 3 | 1.9 |
| ø3/16 | **KQ2L05-00A1** | 9.1 | 8.4 | 11 | 15.7 | 6.2 | 13.3 | 6 | 3.2 | 6.8 | 5.6 | 3.5 | 2.2 |




**Release button dimensions**

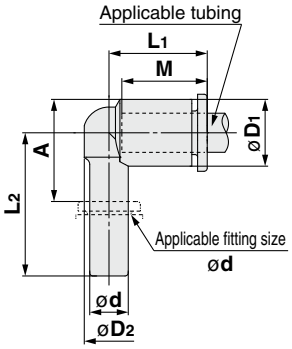


## Dimensions

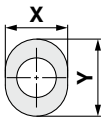
### Plug-in Elbow: KQ2L



| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø1/8 | **KQ2L01-99A1** | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 20.9 | 11.1 | 13.3 | 3 | 2.5 | 2.2 | 0.9 |
| ø5/32 | ø5/32 | **KQ2L03-99A1** | 8.2 | 7.7 | 10 | 7.2 | 14.5 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 2.5 | 1.2 |
| ø3/16 | ø3/16 | **KQ2L05-99A1** | 9.1 | 8.4 | 11 | 8 | 15 | 22.2 | 13.4 | 13.3 | 6.8 | 5.6 | 3.5 | 1.4 |



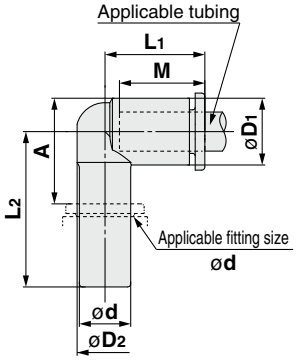

**Release button dimensions**



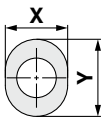

### Reducer Elbow: KQ2L



| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2L01-03A1** | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 23.9 | 14.1 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø3/16 | **KQ2L01-05A1** | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 28.4 | 18.6 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø1/4 | **KQ2L01-07A1** | 7.1 | 6.7 | 9.5 | 6.4 | 14.5 | 24.5 | 14.7 | 13.3 | 3 | 2.5 | 2.5 | 1.3 |
| ø5/32 | ø3/16 | **KQ2L03-05A1** | 8.2 | 7.7 | 10 | 7.2 | 14.8 | 29.1 | 19.9 | 13.3 | 4.2 | 4.2 | 3 | 1.3 |
| | ø1/4 | **KQ2L03-07A1** | 8.2 | 7.7 | 10 | 7.2 | 14.8 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 3 | 1.4 |
| ø3/16 | ø1/4 | **KQ2L05-07A1** | 9.1 | 8.4 | 11 | 8 | 15 | 21.6 | 12.8 | 13.3 | 6.8 | 5.6 | 3.5 | 1.5 |
| | ø5/16 | **KQ2L05-09A1** | 9.1 | 8.4 | 11 | 8 | 15 | 30 | 20.3 | 13.3 | 6.8 | 5.6 | 3.5 | 1.9 |




**Release button dimensions**

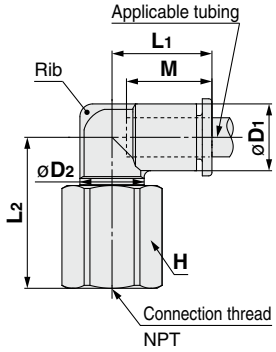



### Female Elbow: KQ2LF

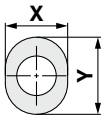


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2LF01-34□1** | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 22.8 | 13.3 | 3 | 2.5 | 2.5 | 18.2 | — |
| | 1/4 | **KQ2LF01-35□1** | 17.46 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 26.3 | 13.3 | 3 | 2.5 | 2.5 | 31.7 | — |
| ø5/32 | 1/8 | **KQ2LF03-34□1** | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 22.4 | 13.3 | 4.2 | 4.2 | 3 | 18.3 | ● |
| | 1/4 | **KQ2LF03-35□1** | 17.46 | 8.2 | 7.7 | 10 | 10 | 14.8 | 26.9 | 13.3 | 4.2 | 4.2 | 3 | 31.9 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



## Dimensions

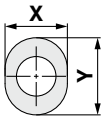
### 45° Male Elbow: KQ2K (Gasket seal)

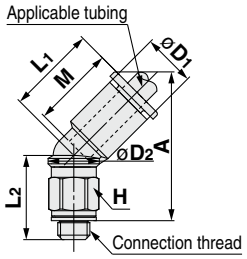


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2K01-32□1** | 7 | 7.1 | 6.7 | 9.5 | 8 | 14.4 | 13 | 21.9 | 13.3 | 3 | 2.5 | 2.5 | 2.8 |
| ø5/32 | 10-32UNF | **KQ2K03-32□1** | 7 | 8.2 | 7.7 | 10 | 8 | 14.4 | 13 | 22.2 | 13.3 | 3.4 | 3.4 | 2.5 | 3 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**




### 45° Male Elbow: KQ2K (Sealant)

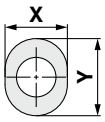


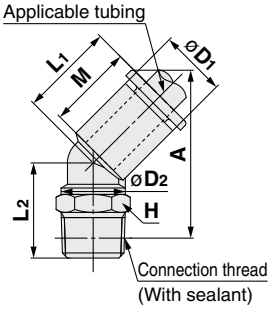
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2K01-34□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.3 | 12.7 | 21.8 | 13.3 | 3 | 2.5 | 2.5 | 5.3 |
| ø5/32 | 1/8 | **KQ2K03-34□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.4 | 12.7 | 22.2 | 13.3 | 4.8 | 3.4 | 3 | 5.5 |
| ø3/16 | 1/8 | **KQ2K05-34□S1** | 11.11 | 9.1 | 8.4 | 11 | 10 | 14.5 | 13.2 | 23.1 | 13.3 | 6.8 | 5.6 | 3.5 | 5.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

**Release button dimensions**



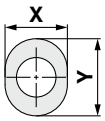

### Universal Male Elbow: KQ2V (Gasket seal)

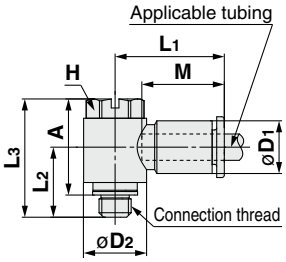


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2V01-32□1** | 8 | 7.1 | 6.7 | 9.5 | 9.8 | 17.5 | 10.4 | 17.9 | 14.4 | 13.3 | 2.2 | 1.9 | 2.5 | 5.2 |
| ø5/32 | 10-32UNF | **KQ2V03-32□1** | 8 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.4 | 17.9 | 14.4 | 13.3 | 2.9 | 2.9 | 2.5 | 5.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**




### Universal Male Elbow: KQ2V (Sealant)

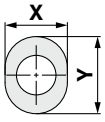


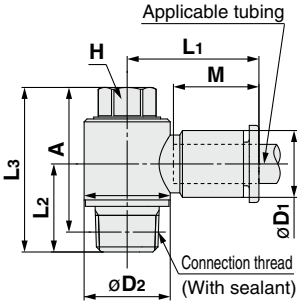
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2V01-34□S1** | 8 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 13.7 | 25.6 | 22.4 | 13.3 | 2.2 | 1.9 | 2.5 | 13.5 |
| ø5/32 | 1/8 | **KQ2V03-34□S1** | 8 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13.7 | 25.6 | 22.4 | 13.3 | 2.9 | 2.9 | 3 | 13.6 |
| ø3/16 | 1/8 | **KQ2V05-34□S1** | 8 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 13.7 | 25.6 | 22.4 | 13.3 | 4.5 | 3.7 | 3.5 | 13.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

**Release button dimensions**



## Dimensions

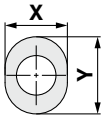
### Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)

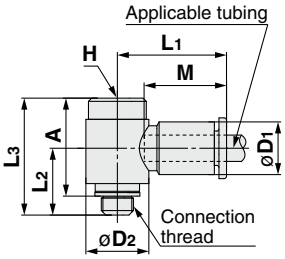


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VS01-32□1** | 4 | 7.1 | 6.7 | 9.5 | 9.8 | 17.5 | 10.4 | 18.2 | 14.7 | 13.3 | 2.2 | 1.9 | 2.3 | 5.3 |
| ø5/32 | 10-32UNF | **KQ2VS03-32□1** | 4 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.4 | 18.2 | 14.7 | 13.3 | 2.9 | 2.9 | 2.3 | 5.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**




### Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)

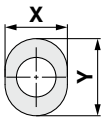


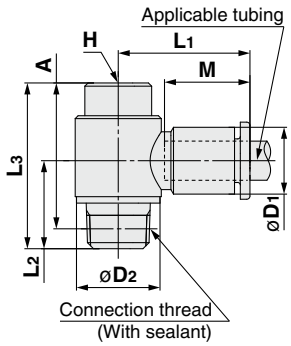
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VS01-34□S1** | 6.35 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 13.7 | 25.8 | 22.6 | 13.3 | 2.2 | 1.9 | 2.5 | 13.1 |
| ø5/32 | 1/8 | **KQ2VS03-34□S1** | 6.35 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13.7 | 25.8 | 22.6 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø3/16 | 1/8 | **KQ2VS05-34□S1** | 6.35 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 13.7 | 25.8 | 22.6 | 13.3 | 4.5 | 3.7 | 3.5 | 13.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

**Release button dimensions**



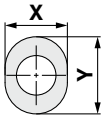

### Universal Female Elbow: KQ2VF (Gasket seal)

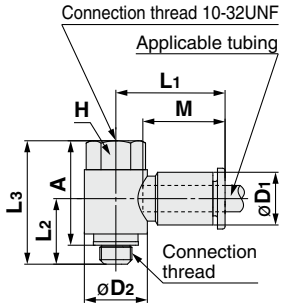


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VF01-32□1** | 8 | 7.1 | 6.7 | 9.5 | 9.8 | 17.5 | 10.4 | 19.4 | 15.9 | 13.3 | 2.2 | 1.9 | 2.5 | 5.4 |
| ø5/32 | 10-32UNF | **KQ2VF03-32□1** | 8 | 8.2 | 7.7 | 10 | 9.8 | 17.5 | 10.4 | 19.4 | 15.9 | 13.3 | 2.9 | 2.9 | 2.5 | 5.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**




### Universal Female Elbow: KQ2VF (Sealant)

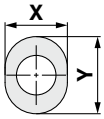


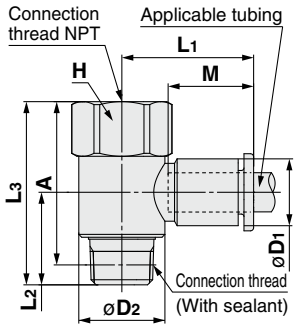
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VF01-34□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 14.4 | 28.5 | 25.3 | 13.3 | 2.2 | 1.9 | 2.5 | 18 |
| ø5/32 | 1/8 | **KQ2VF03-34□S1** | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 14.4 | 28.5 | 25.3 | 13.3 | 2.9 | 2.9 | 3 | 18.1 |
| ø3/16 | 1/8 | **KQ2VF05-34□S1** | 14.29 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 14.4 | 28.5 | 25.3 | 13.3 | 4.5 | 3.7 | 3.5 | 18.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

**Release button dimensions**



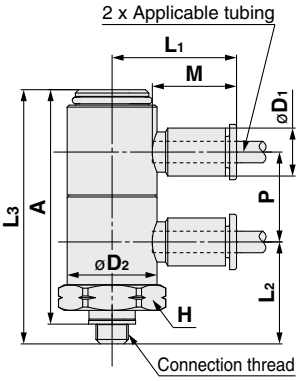
## Dimensions

### Double Universal Male Elbow: KQ2VD (Gasket seal)

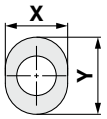


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VD01-32□1** | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 15.2 | 37.9 | 34.4 | 13.3 | 13.4 | 2.2 | 1.9 | 2.3 | 24.4 |
| ø5/32 | 10-32UNF | **KQ2VD03-32□1** | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 15.2 | 37.9 | 34.4 | 13.3 | 13.4 | 2.5 | 2.5 | 2.3 | 24.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



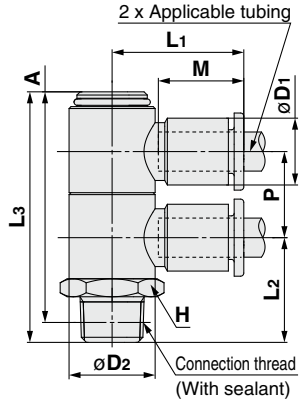

### Double Universal Male Elbow: KQ2VD (Sealant)



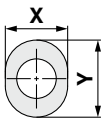
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VD01-34□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 20 |
| ø5/32 | 1/8 | **KQ2VD03-34□S1** | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 20.2 |
| ø3/16 | 1/8 | **KQ2VD05-34□S1** | 14.29 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 20.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**



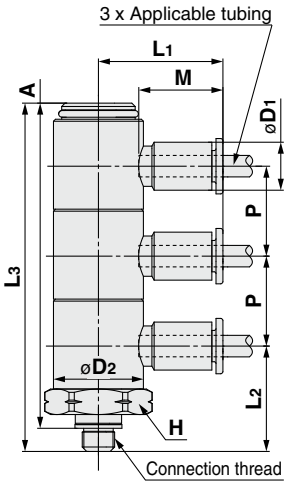
## Dimensions

### Triple Universal Male Elbow: KQ2VT (Gasket seal)

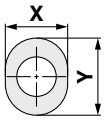


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VT01-32□1** | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 15.7 | 51.9 | 48.4 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 32.4 |
| ø5/32 | 10-32UNF | **KQ2VT03-32□1** | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 15.7 | 51.9 | 48.4 | 13.3 | 13.4 | 2.9 | 2.9 | 2.5 | 32.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



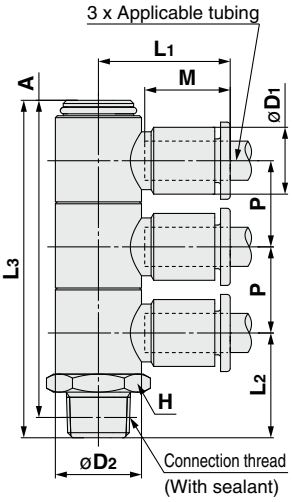

### Triple Universal Male Elbow: KQ2VT (Sealant)



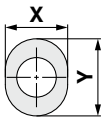
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VT01-34□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 25.5 |
| ø5/32 | 1/8 | **KQ2VT03-34□S1** | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 25.8 |
| ø3/16 | 1/8 | **KQ2VT05-34□S1** | 14.29 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 26.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**



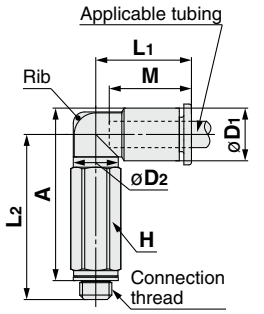
## Dimensions

### Extended Male Elbow: KQ2W (Gasket seal)

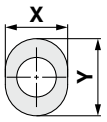


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2W01-32□1** | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 25.8 | 26.4 | 13.3 | 2.8 | 2.4 | 2.5 | 5.9 | ● |
| ø5/32 | 10-32UNF | **KQ2W03-32□1** | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 26.3 | 27.5 | 13.3 | 3 | 3 | 2.5 | 6 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



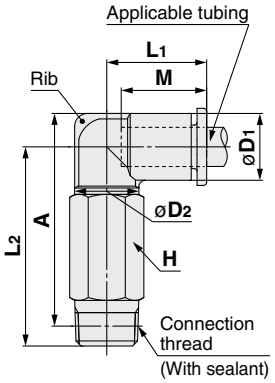

### Extended Male Elbow: KQ2W (Sealant)



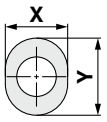
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2W01-33□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 35.9 | 35.4 | 13.3 | 2.8 | 2.4 | 2.5 | 16.6 | — |
| | 1/8 | **KQ2W01-34□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 30.3 | 30.7 | 13.3 | 2.8 | 2.4 | 2.5 | 13.9 | — |
| | 1/4 | **KQ2W01-35□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 32.7 | 31.9 | 13.3 | 2.8 | 2.4 | 2.5 | 27.3 | — |
| ø5/32 | 1/16 | **KQ2W03-33□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 35.4 | 35.4 | 13.3 | 4 | 4 | 3 | 16.7 | ● |
| | 1/8 | **KQ2W03-34□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 29.9 | 30.8 | 13.3 | 4 | 4 | 3 | 14.1 | ● |
| | 1/4 | **KQ2W03-35□S1** | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 33.2 | 32.9 | 13.3 | 4 | 4 | 3 | 27.5 | ● |
| ø3/16 | 1/8 | **KQ2W05-34□S1** | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 30.4 | 31.7 | 13.3 | 6.8 | 5.6 | 3.5 | 14.3 | — |
| | 1/4 | **KQ2W05-35□S1** | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 33.7 | 33.9 | 13.3 | 6.8 | 5.6 | 3.5 | 27.7 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**



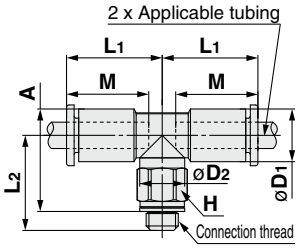
## Dimensions

### Male Branch Tee: KQ2T (Gasket seal)

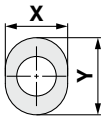


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2T01-32□1** | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.2 | 14.8 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø5/32 | 10-32UNF | **KQ2T03-32□1** | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.7 | 15.8 | 13.3 | 4.5 | 4.5 | 2.5 | 3.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



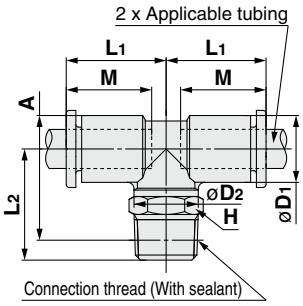

### Male Branch Tee: KQ2T (Sealant)



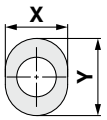
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ | Release button dimensions X | Release button dimensions Y | ø$D_2$ | $L_1$ | $L_2$ | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2T01-33□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 24.2 | 23.7 | 13.3 | 3.4 | 2.9 | 2.5 | 9.7 |
| | 1/8 | **KQ2T01-34□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.6 | 17 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | **KQ2T01-35□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21 | 20.2 | 13.3 | 3.4 | 2.9 | 2.5 | 15.6 |
| ø5/32 | 1/16 | **KQ2T03-33□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 23.8 | 23.8 | 13.3 | 6 | 4.1 | 3 | 10 |
| | 1/8 | **KQ2T03-34□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 17.1 | 13.3 | 6 | 4.1 | 3 | 6.3 |
| | 1/4 | **KQ2T03-35□S1** | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.6 | 21.3 | 13.3 | 6 | 4.1 | 3 | 15.9 |
| ø3/16 | 1/8 | **KQ2T05-34□S1** | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 18 | 13.3 | 8.4 | 7 | 3.5 | 6.6 |
| | 1/4 | **KQ2T05-35□S1** | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 22.1 | 22.2 | 13.3 | 8.4 | 7 | 3.5 | 16.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**

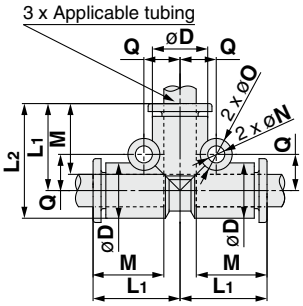


## Dimensions

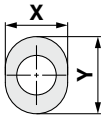
### Union Tee: KQ2T



| Applicable tubing O.D. [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2T01-00A1** | 7.1 | 6.7 | 9.5 | 14.9 | 18.5 | 13.3 | 5.4 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 2.3 |
| ø5/32 | **KQ2T03-00A1** | 8.2 | 7.7 | 10 | 15.3 | 19.4 | 13.3 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 2.8 |
| ø3/16 | **KQ2T05-00A1** | 9.1 | 8.4 | 11 | 15.7 | 20.3 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 3.5 | 3.2 |



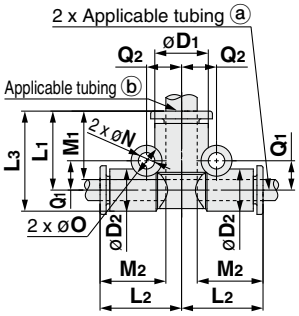

**Release button dimensions**



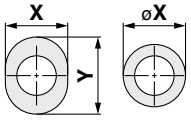

### Different Diameter Tee: KQ2T



| Applicable tubing O.D. [inch] ⓐ | Applicable tubing O.D. [inch] ⓑ | Model | øD1 | Release button dimensions ⓐ X | Release button dimensions ⓐ Y | øD2 | Release button dimensions ⓑ øX (X) | Release button dimensions ⓑ Y | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2T01-03A1** | 8.2 | 6.7 | 9.5 | 7.1 | 7.7 | 10 | 14.9 | 15.3 | 18.5 | 13.3 | 13.3 | 5.4 | 5.8 | 6 | 3.2 | 3.8 | 3.5 | 3 | 2.6 |
| | ø1/4 | **KQ2T01-07A1** | 11.1 | 6.7 | 9.5 | 7.1 | 10.9 | — | 14.9 | 16.5 | 18.5 | 13.3 | 13.3 | 5.3 | 7.2 | 6 | 3.2 | 3.8 | 3.5 | 3.2 | 2.8 |
| ø5/32 | ø3/16 | **KQ2T03-05A1** | 9.1 | 7.7 | 10 | 8.2 | 8.4 | 11 | 15.3 | 15.7 | 19.4 | 13.3 | 13.3 | 5.7 | 6.2 | 6 | 3.2 | 7.1 | 6.6 | 3.5 | 2.6 |
| | ø1/4 | **KQ2T03-07A1** | 11.1 | 7.7 | 10 | 8.2 | 10.9 | — | 15.3 | 16.5 | 19.4 | 13.3 | 13.3 | 5.7 | 7.2 | 6 | 3.2 | 7.1 | 6.6 | 4.1 | 3 |
| ø3/16 | ø1/4 | **KQ2T05-07A1** | 11.1 | 8.4 | 11 | 9.1 | 10.9 | — | 15.7 | 16.5 | 20.3 | 13.3 | 13.3 | 6.2 | 7.2 | 6 | 3.2 | 8.4 | 7 | 4.6 | 3.7 |

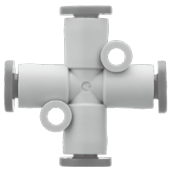



**Release button dimensions**

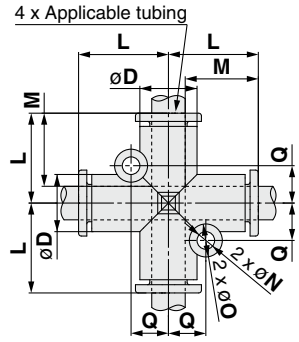



Applicable tubing O.D.: ø1/8", ø5/32", ø3/16"

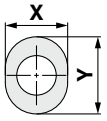
### Cross: KQ2TW



| Applicable tubing O.D. [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | **KQ2TW03-00A1** | 8.2 | 7.7 | 10 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |




**Release button dimensions**



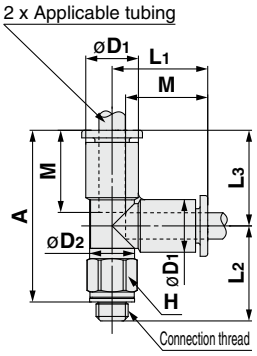
## Dimensions

### Male Run Tee: KQ2Y (Gasket seal)

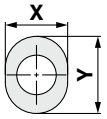


| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2Y01-32□1** | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.2 | 15.3 | 26.5 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø5/32 | 10-32UNF | **KQ2Y03-32□1** | 7 | 8.2 | 7.7 | 10 | 7 | 15.4 | 14.7 | 15.4 | 27.1 | 13.3 | 4.5 | 4.5 | 2.5 | 3.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



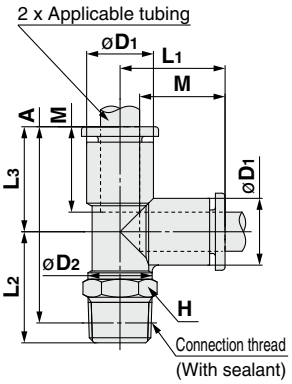

### Male Run Tee: KQ2Y (Sealant)



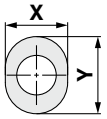
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2Y01-33□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 24.2 | 14.9 | 35.1 | 13.3 | 3.4 | 2.9 | 2.5 | 9.8 |
| | 1/8 | **KQ2Y01-34□S1** | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 16.6 | 14.9 | 28.4 | 13.3 | 3.4 | 2.9 | 2.5 | 6.1 |
| | 1/4 | **KQ2Y01-35□S1** | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 21 | 14.9 | 31.6 | 13.3 | 3.4 | 2.9 | 2.5 | 15.6 |
| ø5/32 | 1/16 | **KQ2Y03-33□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 15.3 | 23.8 | 15.3 | 35 | 13.3 | 6.4 | 4.4 | 3 | 10.1 |
| | 1/8 | **KQ2Y03-34□S1** | 11.11 | 8.2 | 7.7 | 10 | 10 | 15.3 | 16.2 | 15.3 | 28.3 | 13.3 | 6.4 | 4.4 | 3 | 6.4 |
| | 1/4 | **KQ2Y03-35□S1** | 14.29 | 8.2 | 7.7 | 10 | 10 | 15.3 | 21.6 | 15.3 | 32.5 | 13.3 | 6.4 | 4.4 | 3 | 15.9 |
| ø3/16 | 1/8 | **KQ2Y05-34□S1** | 11.11 | 9.1 | 8.4 | 11 | 10 | 15.7 | 16.7 | 15.7 | 29.2 | 13.3 | 8.4 | 7 | 3.5 | 6.7 |
| | 1/4 | **KQ2Y05-35□S1** | 14.29 | 9.1 | 8.4 | 11 | 10 | 15.7 | 22.1 | 15.7 | 33.4 | 13.3 | 8.4 | 7 | 3.5 | 16.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread




**Release button dimensions**

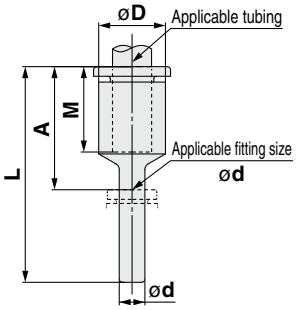


## Dimensions

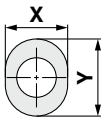
### Plug-in Reducer: KQ2R



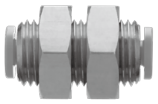
| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2R01-03A1** | 7.1 | 6.7 | 9.5 | 28.6 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø3/16 | **KQ2R01-05A1** | 7.1 | 6.7 | 9.5 | 28.7 | 15.4 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø1/4 | **KQ2R01-07A1** | 7.1 | 6.7 | 9.5 | 28.4 | 15.1 | 13.3 | 3.4 | 2.9 | 2.5 | 1 |
| ø5/32 | ø3/16 | **KQ2R03-05A1** | 8.2 | 7.7 | 10 | 28.7 | 15.4 | 13.3 | 5.6 | 4 | 3 | 1 |
| | ø1/4 | **KQ2R03-07A1** | 8.2 | 7.7 | 10 | 31.8 | 18.5 | 13.3 | 5.6 | 4 | 3 | 1.2 |
| ø3/16 | ø1/4 | **KQ2R05-07A1** | 9.1 | 8.4 | 11 | 31.4 | 18.1 | 13.3 | 7.8 | 6.5 | 3.5 | 1.3 |
| | ø5/16 | **KQ2R05-09A1** | 9.1 | 8.4 | 11 | 33.4 | 19.2 | 13.3 | 7.8 | 6.5 | 3.5 | 1.5 |




**Release button dimensions**

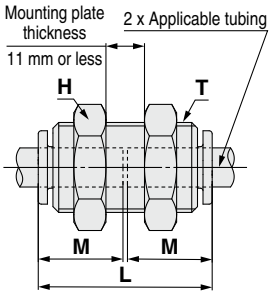



### Bulkhead Union: KQ2E (Interchangeable with KQ)

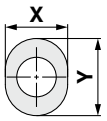


| Applicable tubing O.D. [inch] | Model | T (UNF) | H (Width across flats) | Release button dimensions X | Release button dimensions Y | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2E01-00□1** | 1/2-20UNF | 17.46 | 6.7 | 9.5 | 27.8 | 13.5 | 13.3 | 3.4 | 2.9 | 2.5 | 26.9 |
| ø5/32 | **KQ2E03-00□1** | 1/2-20UNF | 17.46 | 7.7 | 10 | 27.8 | 13.5 | 13.3 | 5.6 | 4 | 3 | 25.7 |
| ø3/16 | **KQ2E05-00□1** | 9/16-18UNF | 17.46 | 8.4 | 11 | 29.8 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 40.3 |

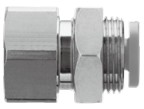
□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

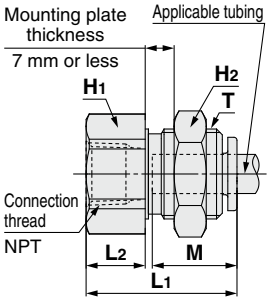



### Bulkhead Connector: KQ2E

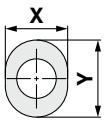


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | T (UNF) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Release button dimensions X | Release button dimensions Y | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/4 | **KQ2E01-35□1** | 1/2-20UNF | 17.46 | 17.46 | 28.7 | 13.3 | 6.7 | 9.5 | 13.5 | 13.3 | 3.4 | 2.9 | 2.5 | 33.3 |
| ø5/32 | 1/4 | **KQ2E03-35□1** | 1/2-20UNF | 17.46 | 17.46 | 29 | 13.6 | 7.7 | 10 | 13.5 | 13.3 | 5.6 | 4 | 3 | 33.3 |
| ø3/16 | 1/8 | **KQ2E05-34□1** | 9/16-18UNF | 17.46 | 17.46 | 25.6 | 9.2 | 8.4 | 11 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 36.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



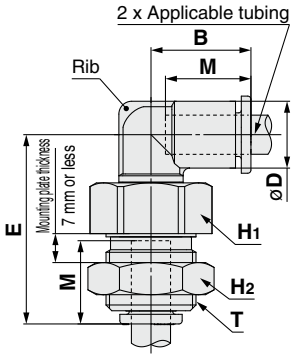
## Dimensions

### Bulkhead Male Elbow: KQ2LE

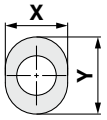


| Applicable tubing O.D. [inch] | Model | T (UNF) | H1 (Width across flats) | H2 (Width across flats) | B | E | øD | Release button dimensions X | Release button dimensions Y | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2LE01-00□1** | 1/2-20UNF | 17.46 | 17.46 | 14.5 | 28.9 | 7.1 | 6.7 | 9.5 | 13.5 | 13.3 | 3 | 2.5 | 2.5 | 27.5 | — |
| ø5/32 | **KQ2LE03-00□1** | 1/2-20UNF | 17.46 | 17.46 | 14.8 | 28.5 | 8.2 | 7.7 | 10 | 13.5 | 13.3 | 4.2 | 4.2 | 3 | 27.1 | ● |
| ø3/16 | **KQ2LE05-00□1** | 9/16-18UNF | 17.46 | 17.46 | 15 | 29.7 | 9.1 | 8.4 | 11 | 15 | 13.3 | 6.8 | 5.6 | 3.5 | 34.1 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

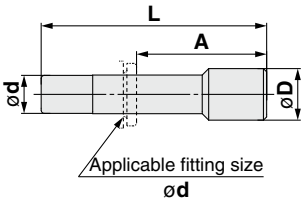



### Plug: KQ2P



| Applicable fitting size ød [inch] | Model | øD*1 | L | A | Weight [g] |
|---|---|---|---|---|---|
| ø1/8 | **KQ2P-01** | 5 | 31.5 | 18.2 | 1 |
| ø5/32 | **KQ2P-03** | 6 | 32 | 18.7 | 1 |
| ø3/16 | **KQ2P-05** | 6.8 | 34 | 20.7 | 1 |
| ø1/4 | **KQ2P-07** | 8.5 | 35 | 21.7 | 1 |
| ø5/16 | **KQ2P-09** | 10 | 39 | 24.8 | 2 |
| ø3/8 | **KQ2P-11** | 11.5 | 43 | 27.4 | 3.5 |
| ø1/2 | **KQ2P-13** | 15 | 45.5 | 28.5 | 5 |

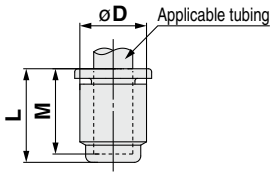
*1 øD is maximum diameter.



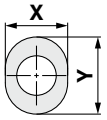

### Tube Cap: KQ2C



| Applicable tubing O.D. [inch] | Model | øD | Release button dimensions X | Release button dimensions Y | L | M | Weight [g] |
|---|---|---|---|---|---|---|---|
| ø5/32 | **KQ2C03-00A1** | 8.2 | 7.7 | 10 | 14.5 | 13.3 | 0.8 |




**Release button dimensions**

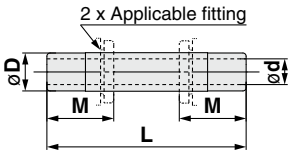


## Dimensions

### Nipple: KQ2N



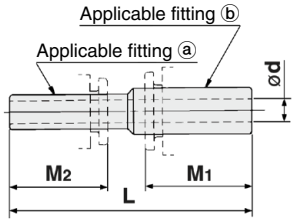
| Applicable fitting ø**D** | Model | **L** | **M** | ø**d** Min. port size | Weight [g] |
|---|---|---|---|---|---|
| ø1/8 | **KQ2N01-99** | 36 | 13.3 | 2.1 | 0.2 |
| ø3/16 | **KQ2N05-99** | 38 | 13.3 | 3.4 | 0.4 |
| ø1/4 | **KQ2N07-99** | 39 | 13.3 | 4.6 | 1 |
| ø3/8 | **KQ2N11-99** | 49 | 15.6 | 7 | 2 |
| ø1/2 | **KQ2N13-99** | 51 | 17 | 9.5 | 3.5 |



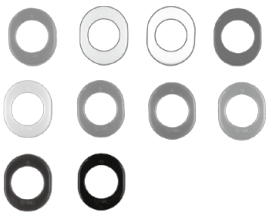

### Reducer Nipple: KQ2N



| Applicable fitting ⓐ | Applicable fitting ⓑ | Model | **L** | **M1** | **M2** | ø**d** Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2N01-03** | 36.5 | 13.3 | 13.3 | 2.1 | 0.2 |
| | ø3/16 | **KQ2N01-05** | 37 | 13.3 | 13.3 | 2.1 | 0.4 |
| ø5/32 | ø3/16 | **KQ2N03-05** | 37.5 | 13.3 | 13.3 | 2.5 | 0.4 |
| | ø1/4 | **KQ2N03-07** | 38 | 13.3 | 13.3 | 2.5 | 0.6 |
| ø3/16 | ø1/4 | **KQ2N05-07** | 38.5 | 13.3 | 13.3 | 3.4 | 0.6 |
| | ø5/16 | **KQ2N05-09** | 41 | 13.3 | 13.3 | 3.4 | 1 |
| ø1/4 | ø5/16 | **KQ2N07-09** | 41.5 | 13.3 | 13.3 | 4.6 | 1 |
| | ø3/8 | **KQ2N07-11** | 45 | 15.6 | 13.3 | 4.6 | 1 |
| ø5/16 | ø3/8 | **KQ2N09-11** | 46.5 | 15.6 | 14.2 | 6 | 1.8 |
| | ø1/2 | **KQ2N09-13** | 47.5 | 17 | 14.2 | 6 | 2.6 |
| ø3/8 | ø1/2 | **KQ2N11-13** | 50 | 17 | 15.6 | 7 | 3.2 |

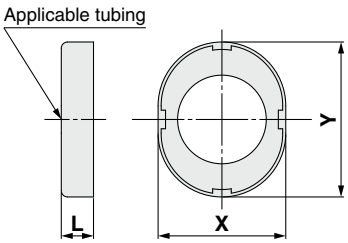



### Color Cap: KQ2C



| Applicable tubing O.D. [inch] | Model | **X** | **Y** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø1/8 | **KQ2C-01□B** | 7.3 | 10 | 2.6 | 0.1 |
| ø3/16 | **KQ2C-05□B** | 8.95 | 11.5 | 2.6 | 0.1 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



# *KQ2 Series*
# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Clean Series

Please consult with SMC separately for applicable models.

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H05-35NS1** (With thread)

**10-KQ2H05-00A1** (Without thread)

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-5G2** | 10-32UNF |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ01-P01A** | KQ2E01-00A1, KQ2E03-00A1, KQ2E01-35A1 |
| | | KQ2E03-35A1, KQ2LE01-00A1, KQ2LE03-00A1 |
| | **KQ05-P01A** | KQ2E05-00A1, KQ2E05-34A1 |
| | | KQ2LE05-00A1 |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ01-P01N** | KQ2E01-00N1, KQ2E03-00N1, KQ2E01-35N1 |
| | | KQ2E03-35N1, KQ2LE01-00N1, KQ2LE03-00N1 |
| | **KQ05-P01N** | KQ2E05-00N1, KQ2E05-34N1 |
| | | KQ2LE05-00N1 |

# Oval Type Inch Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

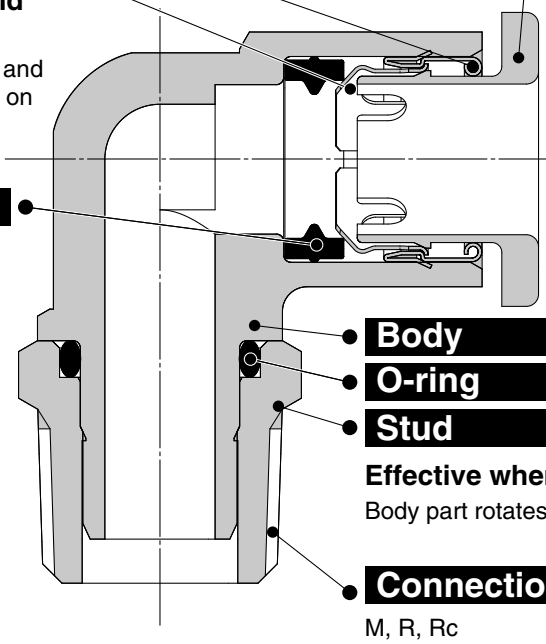
**Suitable for use with nylon and urethane.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

M, R, Rc

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



Made to Order

**Made to Order**
**(Refer to page 55 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø3/16" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping)<br>JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Seal on the threads** | | With sealant |

∗1 The surge pressure must be under the maximum operating pressure.

∗2 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 01 A S 1**

**One-touch Fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connecter |
| **L** | Male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |
| **E** | Bulkhead union |
| | Bulkhead connector |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **05** | ø3/16" |

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

**Port size**

| Symbol | Size |
|---|---|
| **M5** | M5 x 0.8 |
| **01** | 1/8 |
| **02** | 1/4 |
| **00**∗1 | Same diameter tubing |

∗1 Only for "Bulkhead union".

**Thread material/Surface treatment**

| Symbol | | Thread material/Surface treatment |
|---|---|---|
| **A** | | Brass |
| **N** | | Brass + Electroless nickel plating |
| Bulkhead union | **M□** | Only for "Bulkhead union" |

∗ □: A, N

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Oval type release button**

**Spare Parts**

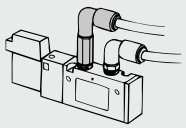
Use the part number below to order the gasket for M5 thread.
Gasket for M5 thread: M-5G2

## Oval Type Variations

**Extended male elbow**
**KQ2W** P.53



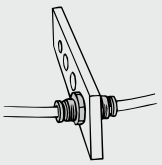
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.54



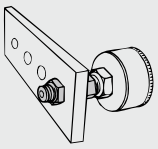
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.54



Use to connect a male thread and tubing through a panel, etc.



**Male connector**
**KQ2H** P.52



Use to pipe a female thread in the same direction. Most general model.

**Male branch tee**
**KQ2T** P.53



Use to branch a female thread at both 90° angles.

**Male elbow**
**KQ2L** P.52



Use to pipe a female thread at right angles. Most general model.

**Male run tee**
**KQ2Y** P.53



Use to branch a female thread in the same direction and at a 90° angle.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | **Refer to page 31 and after for details.** |

**This model does not support oval type release buttons. Refer to the round type (from page 157).**

**Branch "Y"**
**KQ2U** P.162



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

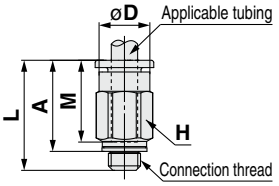
## Dimensions

### Male Connector: KQ2H (Gasket seal)

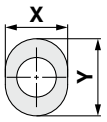


| Applicable tubing O.D. [inch] | Connection thread M | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | M5 x 0.8 | **KQ2H01-M5□1** | 7 | 6.9 | 6.7 | 9.5 | 17.3 | 14.3 | 13.3 | 3.0 | 2.5 | 2.5 | 2.7 |
| ø3/16 | M5 x 0.8 | **KQ2H05-M5□1** | 10 | 8.6 | 8.4 | 11 | 17.6 | 14.6 | 13.3 | 4.0 | 4.0 | 2.5 | 4.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



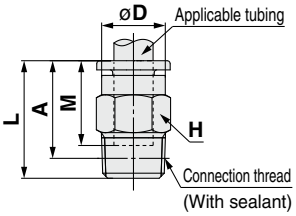

### Male Connector: KQ2H (Sealant)



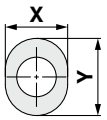
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2H01-01□S1** | 10 | — | 6.7 | 9.5 | 14 | 10.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | **KQ2H01-02□S1** | 14 | — | 6.7 | 9.5 | 16.7 | 12 | 13.3 | 3.4 | 2.9 | 2.5 | 15.3 |
| ø3/16 | 1/8 | **KQ2H05-01□S1** | 10 | 8.6 | 8.4 | 11 | 17.9 | 14.8 | 13.3 | 7.8 | 6.5 | 3.5 | 6.4 |
| | 1/4 | **KQ2H05-02□S1** | 14 | — | 8.4 | 11 | 16.7 | 12 | 13.3 | 7.8 | 6.5 | 3.5 | 13.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**

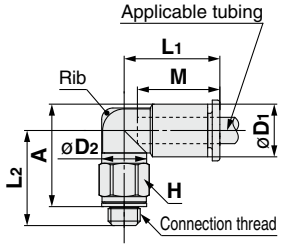



### Male Elbow: KQ2L (Gasket seal)

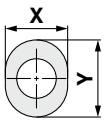


| Applicable tubing O.D. [inch] | Connection thread M | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | M5 x 0.8 | **KQ2L01-M5□1** | 7 | 7.1 | 6.7 | 9.5 | 7 | 15.3 | 14.3 | 14.9 | 13.3 | 2.6 | 2.2 | 2.5 | 3.1 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



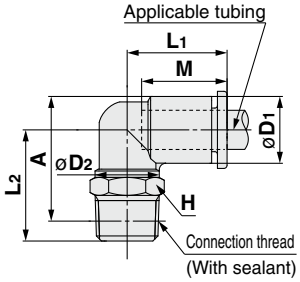

### Male Elbow: KQ2L (Sealant)



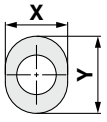
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2L05-01□S1** | 10 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 18.2 | 13.3 | 6.8 | 5.6 | 3.5 | 5 |
| | 1/4 | **KQ2L05-02□S1** | 14 | 9.1 | 8.4 | 11 | 10 | 15 | 22.2 | 22.1 | 13.3 | 6.8 | 5.6 | 3.5 | 14.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



## Dimensions

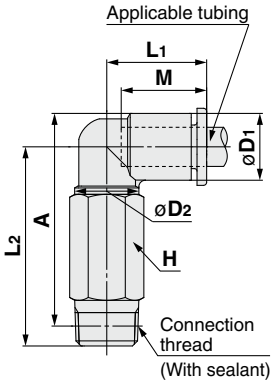
### Extended Male Elbow: KQ2W (Sealant)



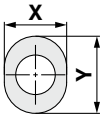
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2W05-01□S1 | 10 | 9.1 | 8.4 | 11 | 10 | 15 | 30.4 | 31.8 | 13.3 | 6.8 | 5.6 | 3.5 | 11.2 |
| | 1/4 | KQ2W05-02□S1 | 14 | 9.1 | 8.4 | 11 | 10 | 15 | 33.8 | 33.7 | 13.3 | 6.8 | 5.6 | 3.5 | 27.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



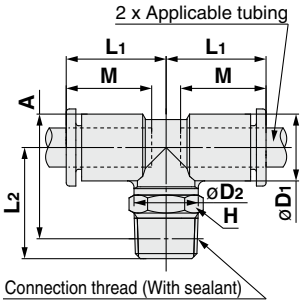

### Male Branch Tee: KQ2T (Sealant)



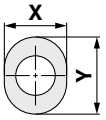
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2T05-01□S1 | 10 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 18.1 | 13.3 | 8.4 | 7 | 3.5 | 5.8 |
| | 1/4 | KQ2T05-02□S1 | 14 | 9.1 | 8.4 | 11 | 10 | 15 | 22.2 | 22 | 13.3 | 8.4 | 7 | 3.5 | 15.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread




**Release button dimensions**



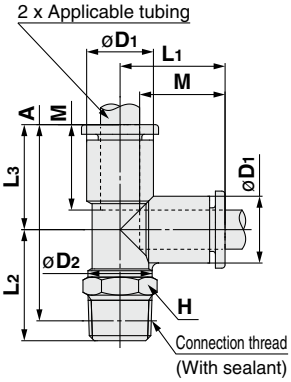

### Male Run Tee: KQ2Y (Sealant)



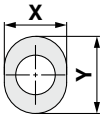
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2Y05-01□S1 | 10 | 9.1 | 8.4 | 11 | 10 | 15.7 | 16.7 | 15.7 | 29.3 | 13.3 | 8.4 | 7 | 3.5 | 5.9 |
| | 1/4 | KQ2Y05-02□S1 | 14 | 9.1 | 8.4 | 11 | 10 | 15.7 | 22.2 | 15.7 | 33.2 | 13.3 | 8.4 | 7 | 3.5 | 15.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

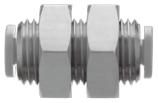



**Release button dimensions**



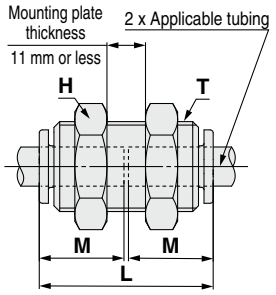
## Dimensions

### Bulkhead Union: KQ2E

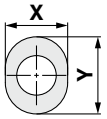


| Applicable tubing O.D. [inch] | Model | T (M) | H (Width across flats) | Release button dimensions X | Release button dimensions Y | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | **KQ2E05-00M□1** | M14 x 1 | 17 | 8.4 | 11 | 27.3 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 30.5 |

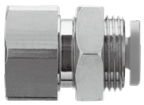
□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

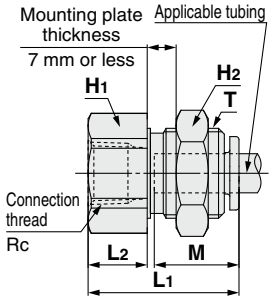



### Bulkhead Connector: KQ2E

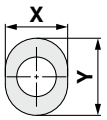


| Applicable tubing O.D. [inch] | Connection thread Rc | Model | T (M) | Release button dimensions X | Release button dimensions Y | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2E05-01□1** | M14 x 1 | 8.4 | 11 | 17 | 17 | 23.9 | 9.5 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 30.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |

∗1 The following models are not available as made-to-order: Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Male connector/KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Clean Series

Please consult with SMC separately for applicable models.

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H05-02NS1**

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-5G2** | M5 |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ06-P01A** | KQ2E05-00MA1 |
| | | KQ2E05-01A1 |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ06-P01N** | KQ2E05-00MN1 |
| | | KQ2E05-01N1 |

# Oval Type Metric Size One-touch Fittings

## Applicable Tubing: Metric Size, Connection Thread: G

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

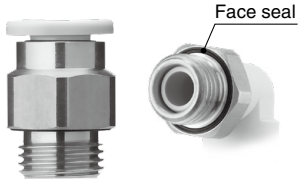
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

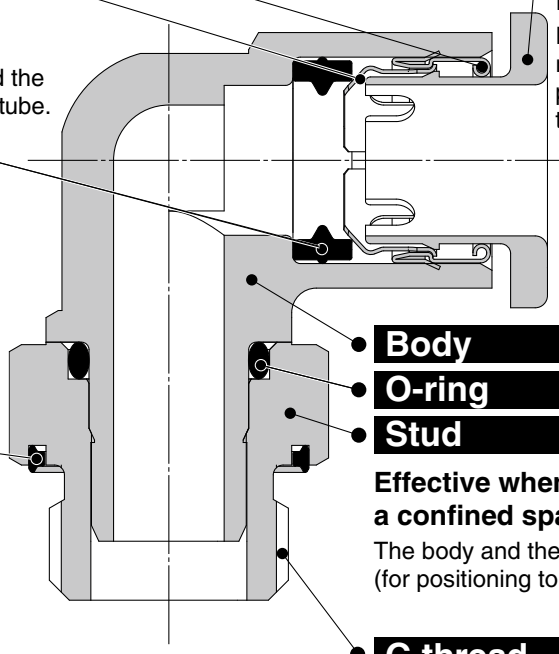
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**G thread**

**Applicable to parallel pipe thread (G).**

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø4, ø6 |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | −5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ISO 16030 (Parallel pipe thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 06 – G01 A 1**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **V** | Universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **E** | Bulkhead connector |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **04** | ø4 |
| **06** | ø6 |

**Port size**

| Symbol | | Size |
|---|---|---|
| Thread connection | **G01** | G1/8 |
| | **G02** | G1/4 |
| | **G03** | G3/8 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Oval type release button**

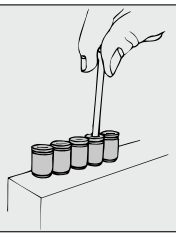
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.60



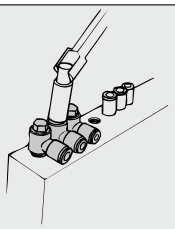
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.61



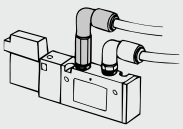
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**Extended male elbow**
**KQ2W** P.61



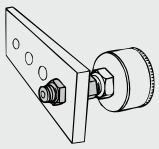
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead connector**
**KQ2E** P.62



Use to connect a male thread and tubing through a panel, etc.



**Male connector**
**KQ2H** P.60



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**
**KQ2L** P.60



Use to pipe a female thread at right angles. Most general model.

**Male run tee**
**KQ2Y** P.62



Use to branch a female thread in the same direction and at a 90° angle.

**Female connector**
**KQ2F** P.60



Use to pipe a male thread of a pressure gauge, etc.

**Male branch tee**
**KQ2T** P.61



Use to branch a female thread at both 90° angles.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | Refer to page 7 and after for details. |

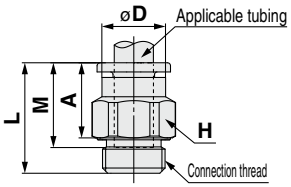
## Dimensions

### Male Connector: KQ2H (Face seal)

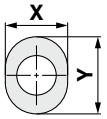


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2H04-G01□1 | 12 | 7.9 | 7.7 | 10 | 17.1 | 11.6 | 13.3 | 4.8 | 3.4 | 3 | 7.7 |
| | 1/4 | KQ2H04-G02□1 | 17 | — | 7.7 | 10 | 15.4 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 16.8 |
| ø6 | 1/8 | KQ2H06-G01□1 | 12 | 9.9 | 9.7 | 12 | 17.3 | 11.8 | 13.3 | 13.1 | 10.4 | 4.5 | 6.6 |
| | 1/4 | KQ2H06-G02□1 | 17 | — | 9.7 | 12 | 15.4 | 8.9 | 13.3 | 13.1 | 10.4 | 4.5 | 14.8 |
| | 3/8 | KQ2H06-G03□1 | 21 | — | 9.7 | 12 | 16.4 | 8.9 | 13.3 | 13.1 | 10.4 | 4.5 | 27.1 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

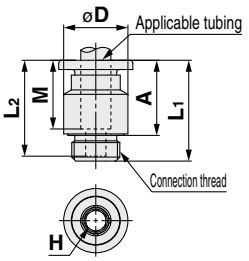



### Hexagon Socket Head Male Connector: KQ2S (Face seal)

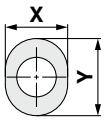


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-G01□1 | 3 | 13 | 7.7 | 10 | 20.6 | 19.6 | 15.1 | 13.3 | 4.1 | 3.6 | 3.1 | 11.6 |
| ø6 | 1/8 | KQ2S06-G01□1 | 4 | 13 | 9.7 | 12 | 19.8 | 18.8 | 14.3 | 13.3 | 10 | 9.9 | 4.1 | 9.7 |
| | 1/4 | KQ2S06-G02□1 | 4 | 18 | 9.7 | 12 | 19.8 | 18.8 | 13.3 | 13.3 | 10.7 | 10 | 4.1 | 18 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

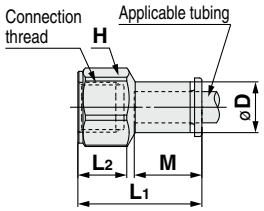



### Female Connector: KQ2F

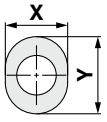


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2F04-G01□1 | 14 | 7.9 | 7.7 | 10 | 24.7 | 9.5 | 13.3 | 5.6 | 4 | 3 | 12.4 |
| | 1/4 | KQ2F04-G02□1 | 17 | 7.9 | 7.7 | 10 | 30.1 | 13.9 | 13.3 | 5.6 | 4 | 3 | 21.3 |
| ø6 | 1/8 | KQ2F06-G01□1 | 14 | 9.9 | 9.7 | 12 | 24.3 | 9.5 | 13.3 | 13.1 | 10.4 | 4.5 | 12.6 |
| | 1/4 | KQ2F06-G02□1 | 17 | 9.9 | 9.7 | 12 | 29.6 | 13.9 | 13.3 | 13.1 | 10.4 | 4.5 | 21.4 |
| | 3/8 | KQ2F06-G03□1 | 21 | 9.9 | 9.7 | 12 | 31.1 | 13.7 | 13.3 | 13.1 | 10.4 | 4.5 | 29.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

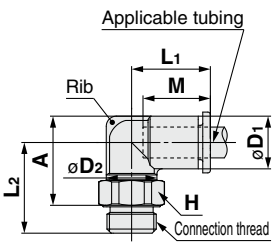



### Male Elbow: KQ2L (Face seal)

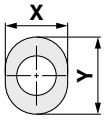


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2L04-G01□1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.8 | 15.4 | 13.3 | 4.6 | 3.3 | 3 | 6.3 | ● |
| | 1/4 | KQ2L04-G02□1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 20.3 | 17.9 | 13.3 | 4.6 | 3.3 | 3 | 16.7 | ● |
| ø6 | 1/8 | KQ2L06-G01□1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.9 | 17.6 | 13.3 | 11.4 | 9 | 4.5 | 6.7 | — |
| | 1/4 | KQ2L06-G02□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21.4 | 20.1 | 13.3 | 11.4 | 9 | 4.5 | 17.2 | — |
| | 3/8 | KQ2L06-G03□1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 22.4 | 20.1 | 13.3 | 11.4 | 9 | 4.5 | 28.9 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

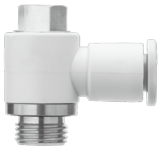



**Release button dimensions**



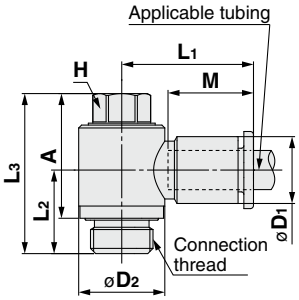
## Dimensions

### Universal Male Elbow: KQ2V (Face seal)

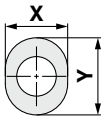


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-G01□1 | 8 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13 | 24.9 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 12.9 |
| ø6 | 1/8 | KQ2V06-G01□1 | 8 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 13 | 24.9 | 19.4 | 13.3 | 7.5 | 5.9 | 4.5 | 13.2 |
| | 1/4 | KQ2V06-G02□1 | 10 | 10.4 | 9.7 | 12 | 18 | 19.9 | 15 | 27.6 | 21.1 | 13.3 | 7.5 | 5.9 | 4.5 | 22.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

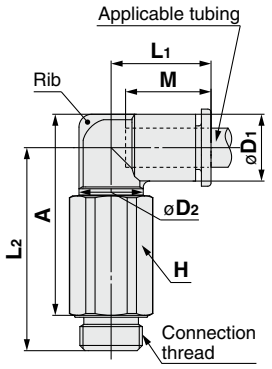



### Extended Male Elbow: KQ2W (Face seal)

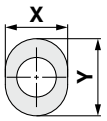


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2W04-G01□1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 30.5 | 29.1 | 13.3 | 4 | 4 | 3 | 16.5 | ● |
| | 1/4 | KQ2W04-G02□1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 31.2 | 28.8 | 13.3 | 4 | 4 | 3 | 35.8 | ● |
| ø6 | 1/8 | KQ2W06-G01□1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 31.6 | 31.3 | 13.3 | 10.9 | 8.6 | 4.5 | 17 | — |
| | 1/4 | KQ2W06-G02□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 32.3 | 31 | 13.3 | 10.9 | 8.6 | 4.5 | 36.2 | — |
| | 3/8 | KQ2W06-G03□1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 33.3 | 31 | 13.3 | 10.9 | 8.6 | 4.5 | 59.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

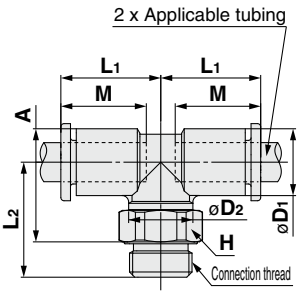



### Male Branch Tee: KQ2T (Face seal)

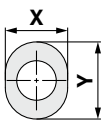


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2T04-G01□1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.8 | 15.4 | 13.3 | 6 | 4.1 | 3 | 7 |
| | 1/4 | KQ2T04-G02□1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 20.3 | 17.9 | 13.3 | 6 | 4.1 | 3 | 17.4 |
| ø6 | 1/8 | KQ2T06-G01□1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.9 | 17.6 | 13.3 | 13.9 | 11 | 4.5 | 7.6 |
| | 1/4 | KQ2T06-G02□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21.4 | 20.1 | 13.3 | 13.9 | 11 | 4.5 | 18.1 |
| | 3/8 | KQ2T06-G03□1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 22.4 | 20.1 | 13.3 | 13.9 | 11 | 4.5 | 29.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



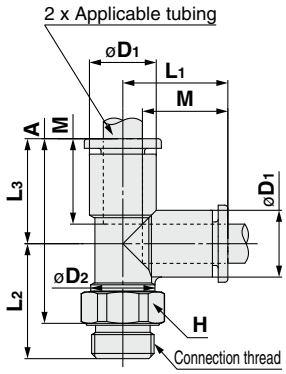
## Dimensions

### Male Run Tee: KQ2Y (Face seal)

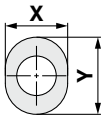


| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Y04-G01□1 | 12 | 8.2 | 7.7 | 10 | 10 | 15.3 | 16.8 | 15.3 | 26.6 | 13.3 | 6.4 | 4.4 | 3 | 7 |
| | 1/4 | KQ2Y04-G02□1 | 17 | 8.2 | 7.7 | 10 | 10 | 15.3 | 20.3 | 15.3 | 29.1 | 13.3 | 6.4 | 4.4 | 3 | 17.5 |
| ø6 | 1/8 | KQ2Y06-G01□1 | 12 | 10.4 | 9.7 | 12 | 10 | 16.3 | 17.9 | 16.3 | 28.7 | 13.3 | 13.4 | 10.6 | 4.5 | 7.7 |
| | 1/4 | KQ2Y06-G02□1 | 17 | 10.4 | 9.7 | 12 | 10 | 16.3 | 21.4 | 16.3 | 31.2 | 13.3 | 13.4 | 10.6 | 4.5 | 18.2 |
| | 3/8 | KQ2Y06-G03□1 | 21 | 10.4 | 9.7 | 12 | 10 | 16.3 | 22.4 | 16.3 | 31.2 | 13.3 | 13.4 | 10.6 | 4.5 | 29.9 |

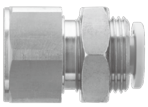
□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

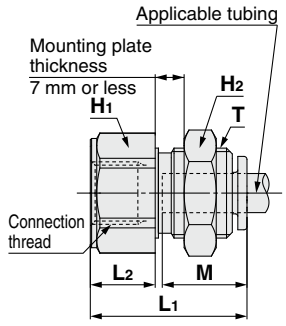



### Bulkhead Connector: KQ2E

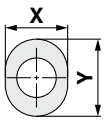


| Applicable tubing O.D. [mm] | Connection thread G | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Release button dimensions X | Release button dimensions Y | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2E04-G01□1 | M12 x 1 | 14 | 14 | 25.1 | 10.7 | 7.7 | 10 | 13 | 13.3 | 5.6 | 4 | 3 | 21.3 |
| | 1/4 | KQ2E04-G02□1 | M12 x 1 | 17 | 14 | 30.7 | 16.3 | 7.7 | 10 | 13 | 13.3 | 5.6 | 4 | 3 | 31.5 |
| ø6 | 1/8 | KQ2E06-G01□1 | M14 x 1 | 17 | 17 | 24.5 | 10.1 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 29.8 |
| | 1/4 | KQ2E06-G02□1 | M14 x 1 | 17 | 17 | 30 | 15.6 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 32.8 |
| | 3/8 | KQ2E06-G03□1 | M14 x 1 | 21 | 17 | 32 | 17.6 | 9.7 | 12 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 45.5 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



# *KQ2 Series*
# Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Spare Parts

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01A** | KQ2E04-G01A1, KQ2E04-G02A1 |
| | **KQ06-P01A** | KQ2E06-G01A1, KQ2E06-G02A1, KQ2E06-G03A1 |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01N** | KQ2E04-G01N1, KQ2E04-G02N1 |
| | **KQ06-P01N** | KQ2E06-G01N1, KQ2E06-G02N1, KQ2E06-G03N1 |

# Oval Type Metric Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

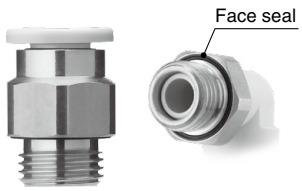
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

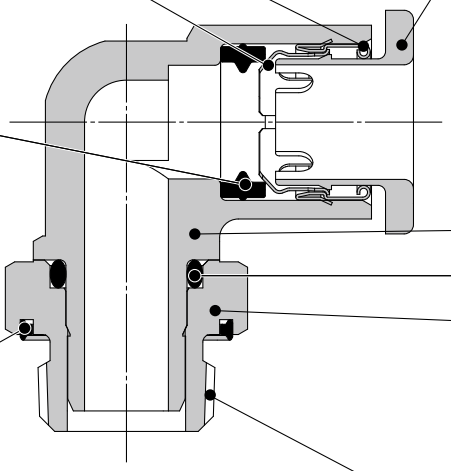
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

R, Rc

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø3.2, ø4, ø6 |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 06 – 01 A P 1**

- **KQ2**: One-touch fittings
- **H**: Model
- **06**: Applicable tubing O.D.
- **01**: Port size/Applicable tubing O.D.
- **A**: Thread material/Surface treatment
- **P**: Face seal
- **1**: Oval type release button

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **D** | Male delta union |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **01** | R1/8, Rc1/8 |
| | **02** | R1/4, Rc1/4 |
| | **03** | R3/8, Rc3/8 |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |

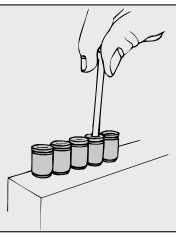
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.68



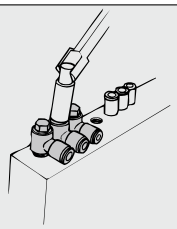
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.69



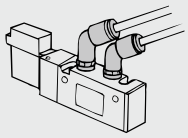
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.68



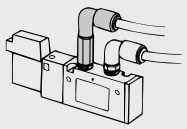
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.71



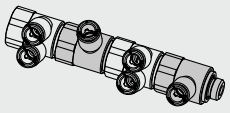
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Universal female elbow**
**KQ2VF** P.69



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



**Male connector**
**KQ2H** P.68



Use to pipe a female thread in the same direction. Most general model.

**Hexagon socket head universal male elbow**
**KQ2VS** P.69



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Male run tee**
**KQ2Y** P.71



Use to branch a female thread in the same direction and at a 90° angle.

**Male elbow**
**KQ2L** P.68



Use to pipe a female thread at right angles.
Most general model.

**Double universal male elbow**
**KQ2VD** P.70



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Male delta union**
**KQ2D** P.72



Use to branch a female thread at two right angles.

**Male branch tee**
**KQ2T** P.71



Use to branch a female thread at both 90° angles.

**Triple universal male elbow**
**KQ2VT** P.70



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

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 7 and after for details.**

**The following models do not support oval type release buttons. Refer to the round type (from page 173).**

**Branch universal female elbow**
**KQ2ZF** P.180



**Branch male elbow**
**KQ2LU** P.177



**Branch universal male elbow**
**KQ2Z** P.180



**Double branch universal male elbow**
**KQ2ZD** P.180



**Triple branch universal male elbow**
**KQ2ZT** P.181



**Double branch "Y"**
**KQ2UD** P.184



**Branch "Y"**
**KQ2U** P.183



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

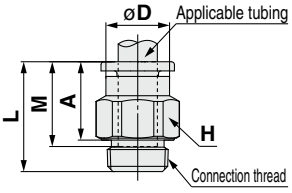
## Dimensions

### Male Connector: KQ2H (Face seal)

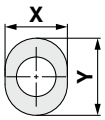


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2H23-01□P1 | 12 | 6.9 | 6.7 | 9.5 | 14.1 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6.3 |
| | 1/4 | KQ2H23-02□P1 | 17 | — | 6.7 | 9.5 | 15 | 7.4 | 13.3 | 3.4 | 2.9 | 2.5 | 15.1 |
| ø4 | 1/8 | KQ2H04-01□P1 | 12 | 7.9 | 7.7 | 10 | 16.4 | 11.2 | 13.3 | 4.8 | 3.4 | 3 | 6.9 |
| | 1/4 | KQ2H04-02□P1 | 17 | — | 7.7 | 10 | 15 | 7.4 | 13.3 | 4.8 | 3.4 | 3 | 14.5 |
| ø6 | 1/8 | KQ2H06-01□P1 | 12 | 9.9 | 9.7 | 12 | 17.2 | 12 | 13.3 | 13.1 | 10.4 | 4.5 | 6.5 |
| | 1/4 | KQ2H06-02□P1 | 17 | — | 9.7 | 12 | 14 | 6.4 | 13.3 | 13.1 | 10.4 | 4.5 | 10.6 |
| | 3/8 | KQ2H06-03□P1 | 21 | — | 9.7 | 12 | 15.2 | 7.6 | 13.3 | 13.1 | 10.4 | 4.5 | 22.8 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

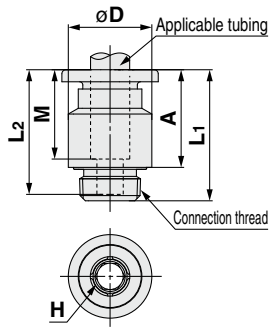



### Hexagon Socket Head Male Connector: KQ2S (Face seal)

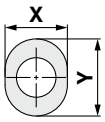


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-01□P1 | 3 | 13 | 7.7 | 10 | 20.6 | 19.6 | 15.4 | 13.3 | 4.1 | 3.6 | 3.1 | 11.6 |
| ø6 | 1/8 | KQ2S06-01□P1 | 4 | 13 | 9.7 | 12 | 19.8 | 18.8 | 14.6 | 13.3 | 10 | 10 | 4 | 9.6 |
| | 1/4 | KQ2S06-02□P1 | 4 | 18 | 9.7 | 12 | 19.8 | 18.8 | 12.2 | 13.3 | 10.7 | 10 | 4.1 | 16.3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

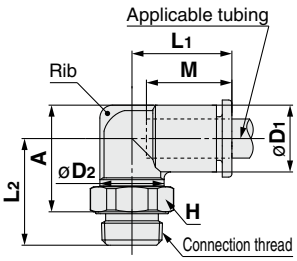



### Male Elbow: KQ2L (Face seal)

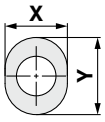


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2L23-01□P1 | 12 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 5.1 | — |
| | 1/4 | KQ2L23-02□P1 | 17 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 19.4 | 15.3 | 13.3 | 3 | 2.5 | 2.5 | 14.3 | — |
| ø4 | 1/8 | KQ2L04-01□P1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 15.5 | 14.4 | 13.3 | 4.6 | 3.3 | 3 | 5.2 | ● |
| | 1/4 | KQ2L04-02□P1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.9 | 16.4 | 13.3 | 4.6 | 3.3 | 3 | 14.5 | ● |
| ø6 | 1/8 | KQ2L06-01□P1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 16.6 | 16.6 | 13.3 | 11.4 | 9 | 4.5 | 5.7 | — |
| | 1/4 | KQ2L06-02□P1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21 | 18.6 | 13.3 | 11.4 | 9 | 4.5 | 15 | — |
| | 3/8 | KQ2L06-03□P1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 23 | 20.6 | 13.3 | 11.4 | 9 | 4.5 | 30.2 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

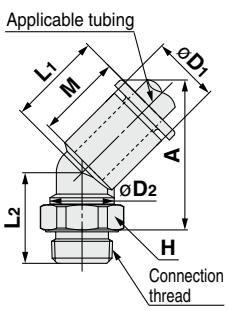



### 45° Male Elbow: KQ2K (Face seal)

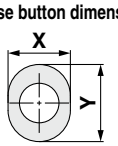


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-01□P1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.4 | 12 | 19.5 | 13.3 | 4.8 | 3.4 | 3 | 5.1 |
| | 1/4 | KQ2K04-02□P1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.4 | 15.4 | 20.5 | 13.3 | 4.8 | 3.4 | 3 | 14.3 |
| ø6 | 1/8 | KQ2K06-01□P1 | 12 | 10.4 | 9.7 | 12 | 10 | 14.7 | 14.1 | 22.5 | 13.3 | 8.7 | 6.9 | 4.5 | 5.5 |
| | 1/4 | KQ2K06-02□P1 | 17 | 10.4 | 9.7 | 12 | 10 | 14.7 | 17.5 | 23.5 | 13.3 | 8.7 | 6.9 | 4.5 | 14.7 |
| | 3/8 | KQ2K06-03□P1 | 21 | 10.4 | 9.7 | 12 | 10 | 14.7 | 19.5 | 25.5 | 13.3 | 8.7 | 6.9 | 4.5 | 29.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

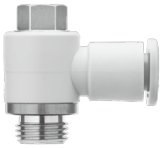



**Release button dimensions**



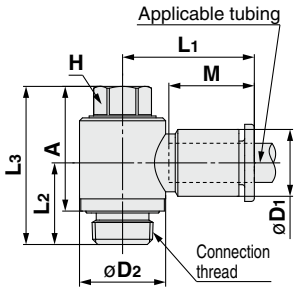
## Dimensions

### Universal Male Elbow: KQ2V (Face seal)

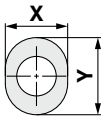


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-01□P1 | 8 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 12.7 | 24.6 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 12.6 |
| ø6 | 1/8 | KQ2V06-01□P1 | 8 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 12.7 | 24.6 | 19.4 | 13.3 | 7.5 | 5.9 | 4.5 | 12.9 |
| | 1/4 | KQ2V06-02□P1 | 10 | 10.4 | 9.7 | 12 | 18 | 19.9 | 16.1 | 28.7 | 21.1 | 13.3 | 7.5 | 5.9 | 4.5 | 23.2 |

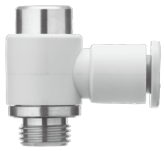
□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

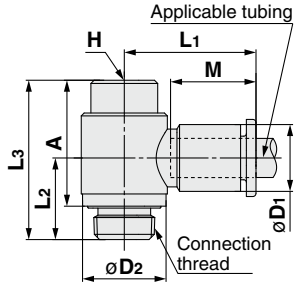



### Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)

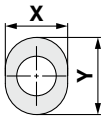


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VS04-01□P1 | 6 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 12.7 | 24.8 | 19.6 | 13.3 | 2.9 | 2.9 | 3 | 12.6 |
| ø6 | 1/8 | KQ2VS06-01□P1 | 6 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 12.7 | 24.8 | 19.6 | 13.3 | 7.5 | 5.9 | 4.5 | 12.9 |
| | 1/4 | KQ2VS06-02□P1 | 6 | 10.4 | 9.7 | 12 | 18 | 19.9 | 16.1 | 24.7 | 17.1 | 13.3 | 7.5 | 5.9 | 4.5 | 19.2 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

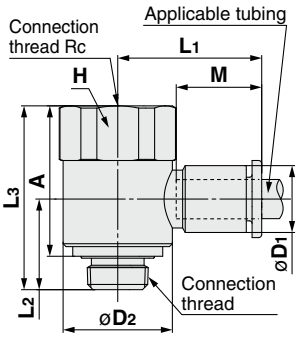



### Universal Female Elbow: KQ2VF (Face seal)

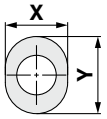


| Applicable tubing O.D. [mm] | Connection thread R, Rc | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VF04-01□P1 | 17 | 8.2 | 7.7 | 10 | 17 | 21.2 | 14.1 | 28.6 | 23.4 | 13.3 | 2.9 | 2.9 | 3 | 28.5 |
| ø6 | 1/8 | KQ2VF06-01□P1 | 17 | 10.4 | 9.7 | 12 | 17 | 22.4 | 14.1 | 28.6 | 23.4 | 13.3 | 7.5 | 5.9 | 4.5 | 28.9 |
| | 1/4 | KQ2VF06-02□P1 | 22 | 10.4 | 9.7 | 12 | 21.7 | 23.2 | 17.6 | 36.4 | 28.8 | 13.3 | 7.5 | 5.9 | 4.5 | 60.3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



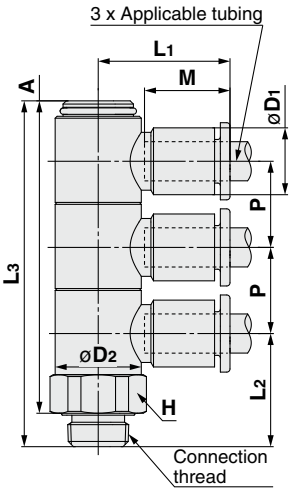
## Dimensions

### Triple Universal Male Elbow: KQ2VT (Face seal)

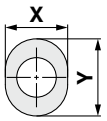


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VT04-01□P1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 27.5 |
| | 1/4 | KQ2VT04-02□P1 | 17 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 36.8 |
| | 3/8 | KQ2VT04-03□P1 | 21 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 54.4 |
| ø6 | 1/8 | KQ2VT06-01□P1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 28.5 |
| | 1/4 | KQ2VT06-02□P1 | 17 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 37.8 |
| | 3/8 | KQ2VT06-03□P1 | 21 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 55.4 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

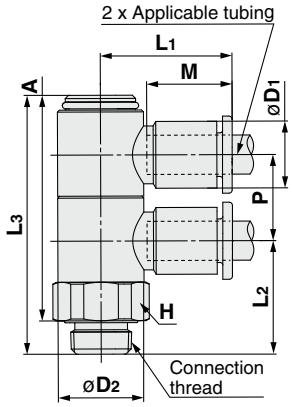



### Double Universal Male Elbow: KQ2VD (Face seal)

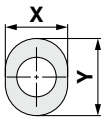


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VD04-01□P1 | 14 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 22 |
| | 1/4 | KQ2VD04-02□P1 | 17 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 31.2 |
| | 3/8 | KQ2VD04-03□P1 | 21 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 48.7 |
| ø6 | 1/8 | KQ2VD06-01□P1 | 14 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 22.6 |
| | 1/4 | KQ2VD06-02□P1 | 17 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 31.8 |
| | 3/8 | KQ2VD06-03□P1 | 21 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 49.3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



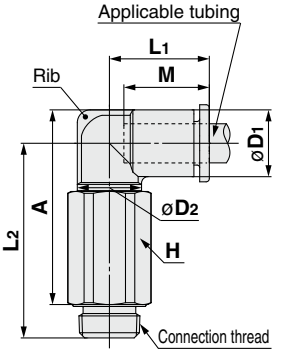
## Dimensions

### Extended Male Elbow: KQ2W (Face seal)

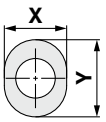


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2W23-01□P1 | 12 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 29.6 | 28 | 13.3 | 2.8 | 2.4 | 2.5 | 15.3 | — |
| | 1/4 | KQ2W23-02□P1 | 17 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 31 | 27 | 13.3 | 2.8 | 2.4 | 2.5 | 34.6 | — |
| ø4 | 1/8 | KQ2W04-01□P1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 29.2 | 28.1 | 13.3 | 4 | 4 | 3 | 15.5 | ● |
| | 1/4 | KQ2W04-02□P1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 31.5 | 28 | 13.3 | 4 | 4 | 3 | 34.9 | ● |
| ø6 | 1/8 | KQ2W06-01□P1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 30.3 | 30.3 | 13.3 | 10.9 | 8.6 | 4.5 | 15.9 | — |
| | 1/4 | KQ2W06-02□P1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 32.6 | 30.2 | 13.3 | 10.9 | 8.6 | 4.5 | 35.3 | — |
| | 3/8 | KQ2W06-03□P1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 34.6 | 32.2 | 13.3 | 10.9 | 8.6 | 4.5 | 62.8 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

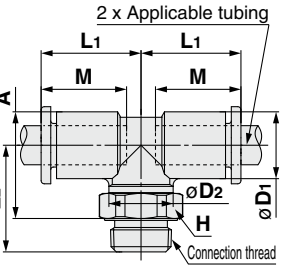



### Male Branch Tee: KQ2T (Face seal)

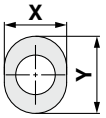


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2T23-01□P1 | 12 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 15.9 | 14.3 | 13.3 | 3.4 | 2.9 | 2.5 | 5.7 |
| | 1/4 | KQ2T23-02□P1 | 17 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 19.3 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 14.9 |
| ø4 | 1/8 | KQ2T04-01□P1 | 12 | 8.2 | 7.7 | 10 | 10 | 14.8 | 15.5 | 14.4 | 13.3 | 6 | 4.1 | 3 | 5.9 |
| | 1/4 | KQ2T04-02□P1 | 17 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.9 | 16.4 | 13.3 | 6 | 4.1 | 3 | 15.2 |
| ø6 | 1/8 | KQ2T06-01□P1 | 12 | 10.4 | 9.7 | 12 | 10 | 15.5 | 16.6 | 16.6 | 13.3 | 13.9 | 11 | 4.5 | 6.6 |
| | 1/4 | KQ2T06-02□P1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21 | 18.6 | 13.3 | 13.9 | 11 | 4.5 | 15.9 |
| | 3/8 | KQ2T06-03□P1 | 21 | 10.4 | 9.7 | 12 | 10 | 15.5 | 23 | 20.6 | 13.3 | 13.9 | 11 | 4.5 | 31.1 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

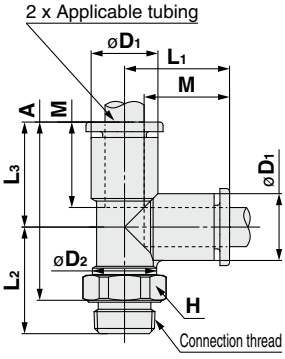



### Male Run Tee: KQ2Y (Face seal)

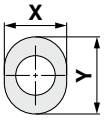


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2Y23-01□P1 | 12 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 15.9 | 14.9 | 25.7 | 13.3 | 3.4 | 2.9 | 2.5 | 5.7 |
| | 1/4 | KQ2Y23-02□P1 | 17 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 19.3 | 14.9 | 26.7 | 13.3 | 3.4 | 2.9 | 2.5 | 14.9 |
| ø4 | 1/8 | KQ2Y04-01□P1 | 12 | 8.2 | 7.7 | 10 | 10 | 15.3 | 15.5 | 15.3 | 25.6 | 13.3 | 6.4 | 4.4 | 3 | 6 |
| | 1/4 | KQ2Y04-02□P1 | 17 | 8.2 | 7.7 | 10 | 10 | 15.3 | 19.9 | 15.3 | 27.6 | 13.3 | 6.4 | 4.4 | 3 | 15.2 |
| ø6 | 1/8 | KQ2Y06-01□P1 | 12 | 10.4 | 9.7 | 12 | 10 | 16.3 | 16.6 | 16.3 | 27.7 | 13.3 | 13.4 | 10.6 | 4.5 | 6.7 |
| | 1/4 | KQ2Y06-02□P1 | 17 | 10.4 | 9.7 | 12 | 10 | 16.3 | 21 | 16.3 | 29.7 | 13.3 | 13.4 | 10.6 | 4.5 | 16 |
| | 3/8 | KQ2Y06-03□P1 | 21 | 10.4 | 9.7 | 12 | 10 | 16.3 | 23 | 16.3 | 31.7 | 13.3 | 13.4 | 10.6 | 4.5 | 31.2 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



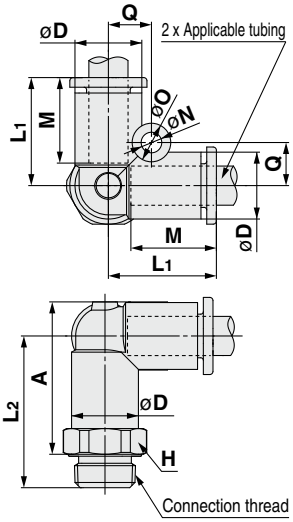
## Dimensions

### Male Delta Union: KQ2D (Face seal)

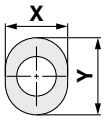


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2D04-01□P1 | 12 | 8.2 | 7.7 | 10 | 15.8 | 22.6 | 21.5 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 9.1 |
| | 1/4 | KQ2D04-02□P1 | 17 | 8.2 | 7.7 | 10 | 15.8 | 26 | 22.5 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 19 |
| ø6 | 1/8 | KQ2D06-01□P1 | 12 | 10.4 | 9.7 | 12 | 16.8 | 23.6 | 23.6 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 9.7 |
| | 1/4 | KQ2D06-02□P1 | 17 | 10.4 | 9.7 | 12 | 16.8 | 27 | 24.6 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 19.3 |
| | 3/8 | KQ2D06-03□P1 | 21 | 10.4 | 9.7 | 12 | 16.8 | 26.5 | 24.1 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 27.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



# Oval Type Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: NPT

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

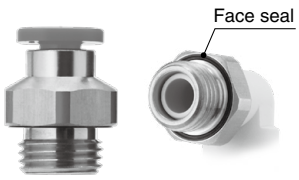
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

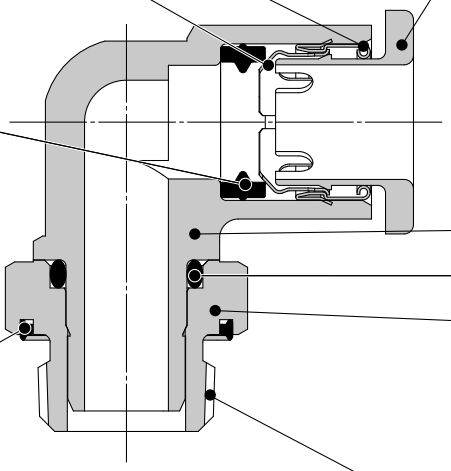
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

NPT

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | −5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread) |
| | **Nut section** | JIS B0208 (UNF thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 34 A P 1**

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 34: Port size/Applicable tubing O.D.
- A: Thread material/Surface treatment
- P: Face seal
- 1: Oval type release button

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **33** | NPT1/16 |
| | **34** | NPT1/8 |
| | **35** | NPT1/4 |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |

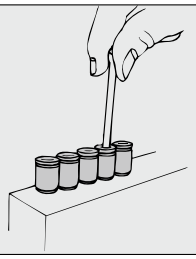
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.76



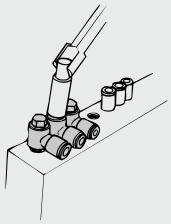
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.77



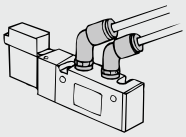
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.77



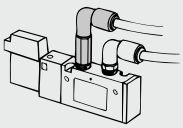
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.79



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**
**KQ2H** P.76



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**
**KQ2L** P.76



Use to pipe a female thread at right angles. Most general model.

**Hexagon socket head universal male elbow**
**KQ2VS** P.77



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Universal female elbow**
**KQ2VF** P.78



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Double universal male elbow**
**KQ2VD** P.78



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Triple universal male elbow**
**KQ2VT** P.78



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

**Male branch tee**
**KQ2T** P.79



Use to branch a female thread at both 90° angles.

**Male run tee**
**KQ2Y** P.79



Use to branch a female thread in the same direction and at a 90° angle.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 31 and after for details.**

**The following models do not support oval type release buttons. Refer to the round type (from page 185).**

**Branch universal male elbow**
**KQ2Z** P.191



**Double branch universal male elbow**
**KQ2ZD** P.192



**Triple branch universal male elbow**
**KQ2ZT** P.192



**Branch "Y"**
**KQ2U** P.194



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

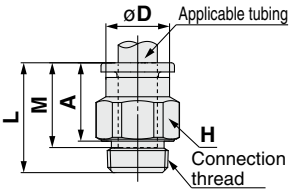
## Dimensions

### Male Connector: KQ2H (Face seal)

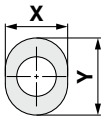


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2H01-33□P1 | 11.11 | 6.7 | 6.7 | 9.5 | 16.8 | 11.4 | 13.3 | 3 | 2.5 | 2.5 | 14.9 |
| | 1/8 | KQ2H01-34□P1 | 12.7 | 6.7 | 6.7 | 9.5 | 14.3 | 8.9 | 13.3 | 3 | 2.5 | 2.5 | 8.7 |
| | 1/4 | KQ2H01-35□P1 | 17.46 | 6.7 | 6.7 | 9.5 | 15.6 | 7.5 | 13.3 | 3.4 | 2.9 | 2.5 | 16.6 |
| ø5/32 | 1/16 | KQ2H03-33□P1 | 11.11 | 7.7 | 7.7 | 10 | 19 | 13.6 | 13.3 | 4.8 | 3.4 | 3 | 13.9 |
| | 1/8 | KQ2H03-34□P1 | 12.7 | 7.7 | 7.7 | 10 | 16.4 | 11 | 13.3 | 4.8 | 3.4 | 3 | 7.6 |
| | 1/4 | KQ2H03-35□P1 | 17.46 | 7.7 | 7.7 | 10 | 15.6 | 7.5 | 13.3 | 4.8 | 3.4 | 3 | 16 |
| ø3/16 | 1/8 | KQ2H05-34□P1 | 12.7 | 8.3 | 8.4 | 11 | 16.9 | 11.5 | 13.3 | 7.8 | 6.5 | 3.6 | 7.8 |
| | 1/4 | KQ2H05-35□P1 | 17.46 | 8.3 | 8.4 | 11 | 15.6 | 7.5 | 13.3 | 7.8 | 6.5 | 3.5 | 15.3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

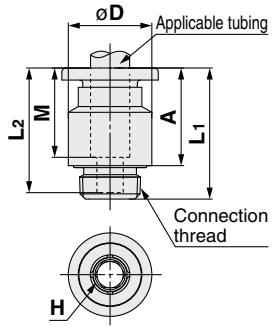



### Hexagon Socket Head Male Connector: KQ2S (Face seal)

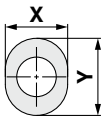


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | 1/16 | KQ2S03-33□P1 | 2.78 | 12 | 7.7 | 10 | 19 | 16.3 | 13.6 | 13.3 | 4.1 | 3.6 | 2.8 | 7.5 |
| | 1/8 | KQ2S03-34□P1 | 2.78 | 14 | 7.7 | 10 | 17.3 | 16.3 | 11.9 | 13.3 | 4.1 | 3.6 | 2.8 | 9.2 |
| ø3/16 | 1/8 | KQ2S05-34□P1 | 3.57 | 14 | 8.4 | 11 | 19.8 | 18.8 | 14.4 | 13.3 | 7.8 | 6.5 | 3.6 | 11.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

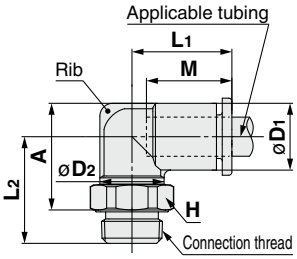



### Male Elbow: KQ2L (Face seal)

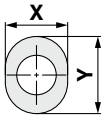


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2L01-33□P1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.6 | 19.8 | 13.3 | 3 | 2.5 | 2.5 | 14.6 | — |
| | 1/8 | KQ2L01-34□P1 | 12.7 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.7 | 14.9 | 13.3 | 3 | 2.5 | 2.5 | 6.1 | — |
| | 1/4 | KQ2L01-35□P1 | 17.46 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.4 | 16.9 | 13.3 | 3 | 2.5 | 2.5 | 18.3 | — |
| ø5/32 | 1/16 | KQ2L03-33□P1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.1 | 19.8 | 13.3 | 4.6 | 3.3 | 3 | 14.9 | ● |
| | 1/8 | KQ2L03-34□P1 | 12.7 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 14.9 | 13.3 | 4.6 | 3.3 | 3 | 6.3 | ● |
| | 1/4 | KQ2L03-35□P1 | 17.46 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.9 | 17.9 | 13.3 | 4.6 | 3.3 | 3 | 18.5 | ● |
| ø3/16 | 1/8 | KQ2L05-34□P1 | 12.7 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 15.8 | 13.3 | 6.8 | 5.6 | 3.5 | 6.5 | — |
| | 1/4 | KQ2L05-35□P1 | 17.46 | 9.1 | 8.4 | 11 | 10 | 15 | 22.4 | 18.8 | 13.3 | 6.8 | 5.6 | 3.5 | 18.7 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



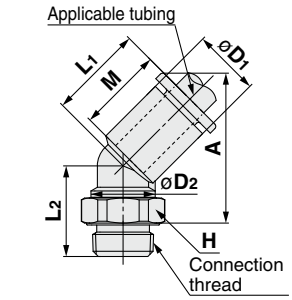
## Dimensions

### 45° Male Elbow: KQ2K (Face seal)

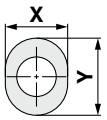


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2K01-34□P1** | 12.7 | 7.1 | 6.7 | 9.5 | 10 | 14.3 | 12.7 | 19.6 | 13.3 | 3 | 2.5 | 2.5 | 5.9 |
| ø5/32 | 1/8 | **KQ2K03-34□P1** | 12.7 | 8.2 | 7.7 | 10 | 10 | 14.4 | 12.7 | 20 | 13.3 | 4.8 | 3.4 | 3 | 6.1 |
| ø3/16 | 1/8 | **KQ2K05-34□P1** | 12.7 | 9.1 | 8.4 | 11 | 10 | 14.5 | 13.2 | 20.9 | 13.3 | 6.8 | 5.6 | 3.5 | 6.3 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

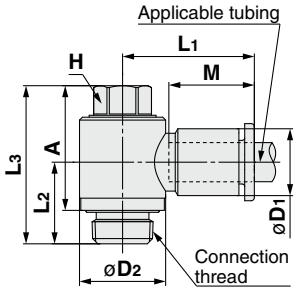



### Universal Male Elbow: KQ2V (Face seal)

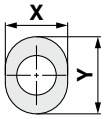


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2V01-34□P1** | 8 | 7.1 | 6.7 | 9.5 | 14 | 19.3 | 12.9 | 24.8 | 19.4 | 13.3 | 2.2 | 1.9 | 2.5 | 13.1 |
| ø5/32 | 1/8 | **KQ2V03-34□P1** | 8 | 8.2 | 7.7 | 10 | 14 | 19.3 | 12.9 | 24.8 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø3/16 | 1/8 | **KQ2V05-34□P1** | 8 | 9.1 | 8.4 | 11 | 14 | 19.6 | 12.9 | 24.8 | 19.4 | 13.3 | 4.5 | 3.7 | 3.5 | 13.4 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

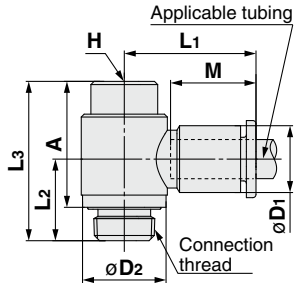



### Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)

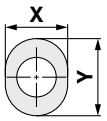


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VS01-34□P1** | 6.35 | 7.1 | 6.7 | 9.5 | 14 | 19.3 | 12.9 | 25 | 19.6 | 13.3 | 2.2 | 1.9 | 2.5 | 12.7 |
| ø5/32 | 1/8 | **KQ2VS03-34□P1** | 6.35 | 8.2 | 7.7 | 10 | 14 | 19.3 | 12.9 | 25 | 19.6 | 13.3 | 2.9 | 2.9 | 3 | 12.8 |
| ø3/16 | 1/8 | **KQ2VS05-34□P1** | 6.35 | 9.1 | 8.4 | 11 | 14 | 19.6 | 12.9 | 25 | 19.6 | 13.3 | 4.5 | 3.7 | 3.5 | 13.1 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



## Dimensions

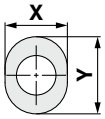
### Universal Female Elbow: KQ2VF (Face seal)

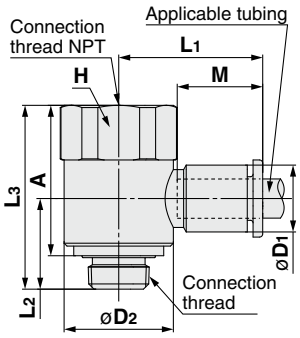


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2VF01-34□P1 | 17.46 | 7.1 | 6.7 | 9.5 | 17 | 21.2 | 14.3 | 28.8 | 23.4 | 13.3 | 2.2 | 1.9 | 2.5 | 28.4 |
| ø5/32 | 1/8 | KQ2VF03-34□P1 | 17.46 | 8.2 | 7.7 | 10 | 17 | 21.2 | 14.3 | 28.8 | 23.4 | 13.3 | 2.9 | 2.9 | 3 | 28.5 |
| ø3/16 | 1/8 | KQ2VF05-34□P1 | 17.46 | 9.1 | 8.4 | 11 | 17 | 21.5 | 14.3 | 28.8 | 23.4 | 13.3 | 4.5 | 3.7 | 3.5 | 28.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**



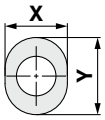

### Double Universal Male Elbow: KQ2VD (Face seal)

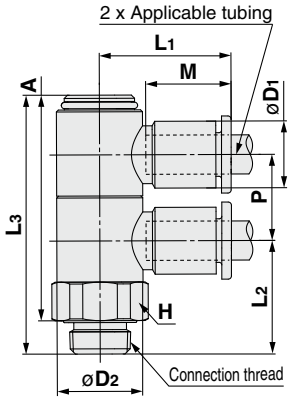


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2VD01-34□P1 | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 22.8 |
| ø5/32 | 1/8 | KQ2VD03-34□P1 | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 23.1 |
| ø3/16 | 1/8 | KQ2VD05-34□P1 | 14.29 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 23.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**



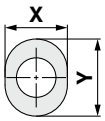

### Triple Universal Male Elbow: KQ2VT (Face seal)

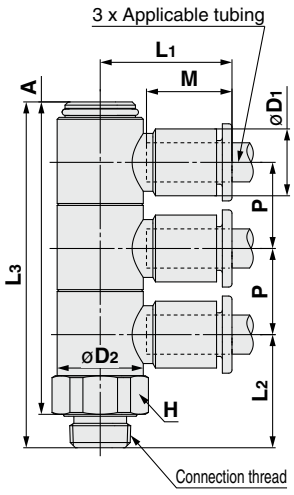


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2VT01-34□P1 | 14.29 | 7.1 | 6.7 | 9.5 | 13.4 | 19.3 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 28.3 |
| ø5/32 | 1/8 | KQ2VT03-34□P1 | 14.29 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 28.7 |
| ø3/16 | 1/8 | KQ2VT05-34□P1 | 14.29 | 9.1 | 8.4 | 11 | 13.4 | 19.6 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 29 |

□: A (Brass), N (Brass + Electroless nickel plating)

**Release button dimensions**



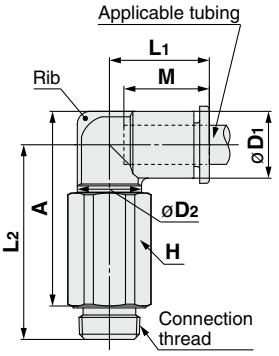
## Dimensions

### Extended Male Elbow: KQ2W (Face seal)

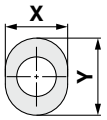


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2W01-33□P1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 33.2 | 31.4 | 13.3 | 2.8 | 2.4 | 2.5 | 14.3 | — |
| | 1/8 | KQ2W01-34□P1 | 12.7 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 30.3 | 28.5 | 13.3 | 2.8 | 2.4 | 2.5 | 18 | — |
| | 1/4 | KQ2W01-35□P1 | 17.46 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 33 | 28.5 | 13.3 | 2.8 | 2.4 | 2.5 | 39.9 | — |
| ø5/32 | 1/16 | KQ2W03-33□P1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 32.7 | 31.4 | 13.3 | 4 | 4 | 3 | 14.4 | ● |
| | 1/8 | KQ2W03-34□P1 | 12.7 | 8.2 | 7.7 | 10 | 10 | 14.8 | 29.9 | 28.6 | 13.3 | 4 | 4 | 3 | 18.2 | ● |
| | 1/4 | KQ2W03-35□P1 | 17.46 | 8.2 | 7.7 | 10 | 10 | 14.8 | 33.5 | 29.5 | 13.3 | 4 | 4 | 3 | 40.1 | ● |
| ø3/16 | 1/8 | KQ2W05-34□P1 | 12.7 | 9.1 | 8.4 | 11 | 10 | 15 | 30.4 | 29.5 | 13.3 | 6.8 | 5.6 | 3.5 | 18.4 | — |
| | 1/4 | KQ2W05-35□P1 | 17.46 | 9.1 | 8.4 | 11 | 10 | 15 | 34 | 30.5 | 13.3 | 6.8 | 5.6 | 3.5 | 40.3 | — |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

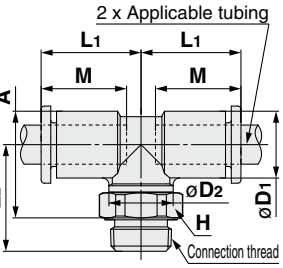



### Male Branch Tee: KQ2T (Face seal)

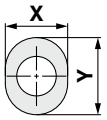


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2T01-33□P1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.5 | 19.7 | 13.3 | 3.4 | 2.9 | 2.5 | 7.7 |
| | 1/8 | KQ2T01-34□P1 | 12.7 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 16.6 | 14.8 | 13.3 | 3.4 | 2.9 | 2.5 | 6.7 |
| | 1/4 | KQ2T01-35□P1 | 17.46 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 21.3 | 16.8 | 13.3 | 3.4 | 2.9 | 2.5 | 18.9 |
| ø5/32 | 1/16 | KQ2T03-33□P1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.1 | 19.8 | 13.3 | 6 | 4.1 | 3 | 16.3 |
| | 1/8 | KQ2T03-34□P1 | 12.7 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.2 | 14.9 | 13.3 | 6 | 4.1 | 3 | 7 |
| | 1/4 | KQ2T03-35□P1 | 17.46 | 8.2 | 7.7 | 10 | 10 | 14.8 | 21.9 | 17.9 | 13.3 | 6 | 4.1 | 3 | 19.2 |
| ø3/16 | 1/8 | KQ2T05-34□P1 | 12.7 | 9.1 | 8.4 | 11 | 10 | 15 | 16.7 | 15.8 | 13.3 | 8.4 | 7 | 3.5 | 7.3 |
| | 1/4 | KQ2T05-35□P1 | 17.46 | 9.1 | 8.4 | 11 | 10 | 15 | 22.4 | 18.8 | 13.3 | 8.4 | 7 | 3.5 | 19.5 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

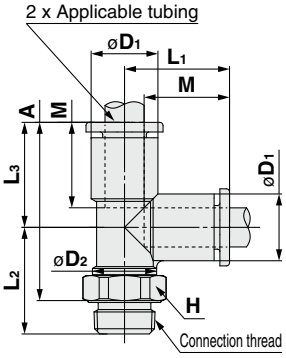



### Male Run Tee: KQ2Y (Face seal)

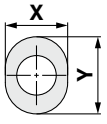


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2Y01-33□P1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 21.5 | 14.9 | 31.1 | 13.3 | 3.4 | 2.9 | 2.5 | 15.8 |
| | 1/8 | KQ2Y01-34□P1 | 12.7 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 16.6 | 14.9 | 26.2 | 13.3 | 3.4 | 2.9 | 2.5 | 6.7 |
| | 1/4 | KQ2Y01-35□P1 | 17.46 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 21.3 | 14.9 | 28.2 | 13.3 | 3.4 | 2.9 | 2.5 | 18.9 |
| ø5/32 | 1/16 | KQ2Y03-33□P1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 15.3 | 21.1 | 15.3 | 31 | 13.3 | 6.4 | 4.4 | 3 | 16.4 |
| | 1/8 | KQ2Y03-34□P1 | 12.7 | 8.2 | 7.7 | 10 | 10 | 15.3 | 16.2 | 15.3 | 26.1 | 13.3 | 6.4 | 4.4 | 3 | 7 |
| | 1/4 | KQ2Y03-35□P1 | 17.46 | 8.2 | 7.7 | 10 | 10 | 15.3 | 21.9 | 15.3 | 29.1 | 13.3 | 6.4 | 4.4 | 3 | 19.2 |
| ø3/16 | 1/8 | KQ2Y05-34□P1 | 12.7 | 9.1 | 8.4 | 11 | 10 | 15.7 | 16.7 | 15.7 | 27 | 13.3 | 8.4 | 7 | 3.5 | 7.3 |
| | 1/4 | KQ2Y05-35□P1 | 17.46 | 9.1 | 8.4 | 11 | 10 | 15.7 | 22.4 | 15.7 | 30 | 13.3 | 8.4 | 7 | 3.5 | 19.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



# Oval Type Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: R

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

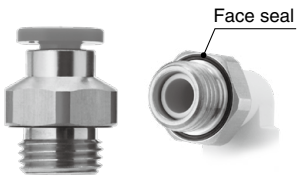
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

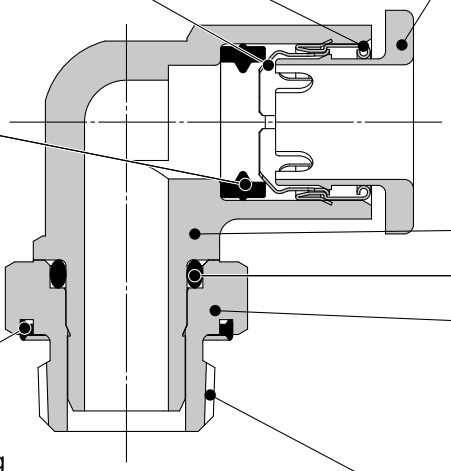
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

R

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø3/16" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 01 A P 1**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **L** | Male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **05** | ø3/16" |

**Port size**

| Symbol | Size |
|---|---|
| **01** | R1/8 |
| **02** | R1/4 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Face seal**

**Oval type release button**

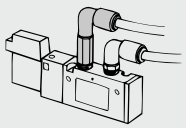
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Oval Type Variations

**Extended male elbow**
**KQ2W** P.84



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**
**KQ2H** P.84



Use to pipe a female thread in the same direction. Most general model.

**Male branch tee**
**KQ2T** P.85



Use to branch a female thread at both 90° angles.

**Male elbow**
**KQ2L** P.84



Use to pipe a female thread at right angles. Most general model.

**Male run tee**
**KQ2Y** P.85



Use to branch a female thread in the same direction and at a 90° angle.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 31 and after for details.**

**This model does not support oval type release buttons. Refer to the round type (from page 195).**

**Branch "Y"**
**KQ2U** P.199



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

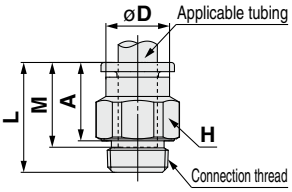
## Dimensions

### Male Connector: KQ2H (Face seal)

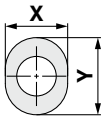


| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2H01-01□P1 | 12 | 6.7 | 6.7 | 9.5 | 14.1 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6.3 |
| | 1/4 | KQ2H01-02□P1 | 17 | 6.7 | 6.7 | 9.5 | 15 | 7.4 | 13.3 | 3.4 | 2.9 | 2.5 | 15.1 |
| ø3/16 | 1/8 | KQ2H05-01□P1 | 12 | 8.3 | 8.4 | 11 | 16.7 | 11.5 | 13.3 | 7.8 | 6.5 | 3.5 | 6.8 |
| | 1/4 | KQ2H05-02□P1 | 17 | 8.3 | 8.4 | 11 | 15 | 7.4 | 13.3 | 7.8 | 6.5 | 3.5 | 13.9 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

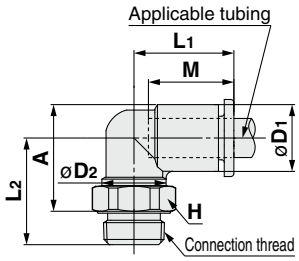



### Male Elbow: KQ2L (Face seal)

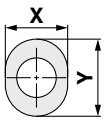


| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2L05-01□P1 | 12 | 9.1 | 8.4 | 11 | 10 | 15 | 16 | 15.3 | 13.3 | 6.8 | 5.6 | 3.5 | 5.4 |
| | 1/4 | KQ2L05-02□P1 | 17 | 9.1 | 8.4 | 11 | 10 | 15 | 20.4 | 17.3 | 13.3 | 6.8 | 5.6 | 3.5 | 14.7 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

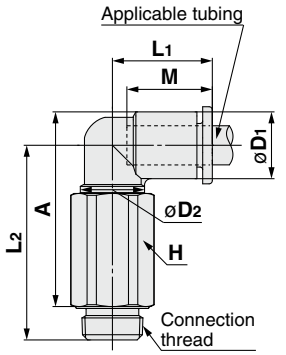



### Extended Male Elbow: KQ2W (Face seal)

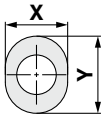


| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2W05-01□P1 | 12 | 9.1 | 8.4 | 11 | 10 | 15 | 29.7 | 29 | 13.3 | 6.8 | 5.6 | 3.5 | 15.7 |
| | 1/4 | KQ2W05-02□P1 | 17 | 9.1 | 8.4 | 11 | 10 | 15 | 32 | 29 | 13.3 | 6.8 | 5.6 | 3.5 | 35.1 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



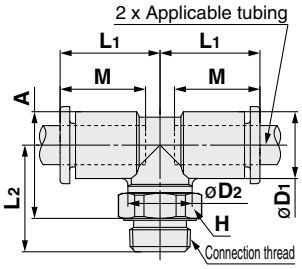
## Dimensions

### Male Branch Tee: KQ2T (Face seal)

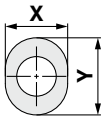


| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2T05-01□P1** | 12 | 9.1 | 8.4 | 11 | 10 | 15 | 16 | 15.3 | 13.3 | 8.4 | 7 | 3.5 | 6.2 |
| | 1/4 | **KQ2T05-02□P1** | 17 | 9.1 | 8.4 | 11 | 10 | 15 | 20.4 | 17.3 | 13.3 | 8.4 | 7 | 3.5 | 15.5 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**

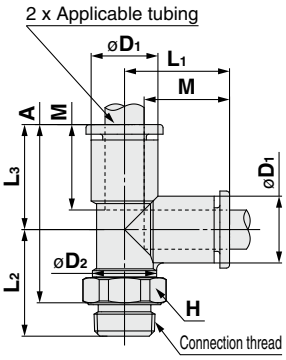



### Male Run Tee: KQ2Y (Face seal)

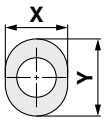


| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2Y05-01□P1** | 12 | 9.1 | 8.4 | 11 | 10 | 15.7 | 16 | 15.7 | 26.5 | 13.3 | 8.4 | 7 | 3.5 | 6.3 |
| | 1/4 | **KQ2Y05-02□P1** | 17 | 9.1 | 8.4 | 11 | 10 | 15.7 | 20.4 | 15.7 | 28.5 | 13.3 | 8.4 | 7 | 3.5 | 15.6 |

□: A (Brass), N (Brass + Electroless nickel plating)




**Release button dimensions**



# Oval Type Metric Size Uni One-touch Fittings

## Applicable Tubing: Metric Size, Connection Thread: Rc, G, NPT, NPTF

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

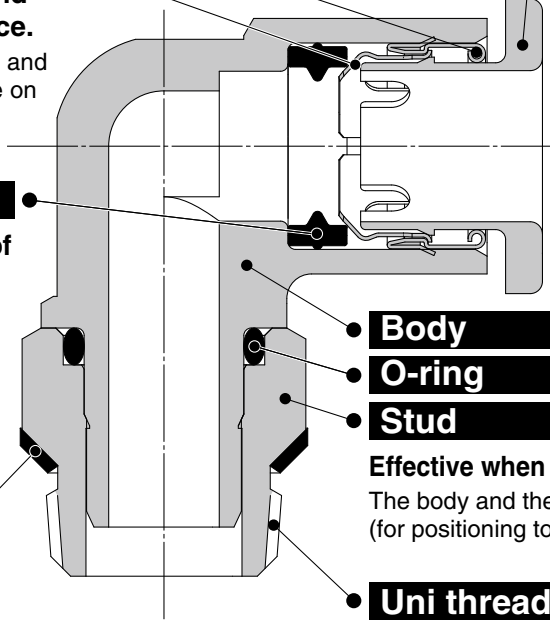
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Gasket**

**Release button (Light gray)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.



**Body**

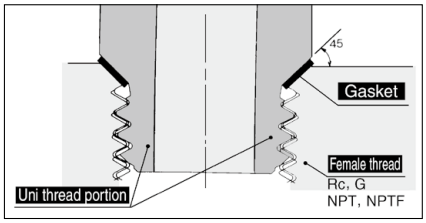
**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**Uni thread**




**Uni thread ridge shape**

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

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

**Drastically cuts piping work-hours with the gasket seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø4, ø6 |

## Specifications

| | |
|---|---|
| **Fluid** | Air, Water*1 |
| **Operating pressure range***2 | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | 3 MPa |
| **Ambient and fluid temperature** | –5 to 60°C, Water: 0 to 40°C (No freezing) |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

Made to Order

**Made to Order**

**(Refer to page 93 for details.)**

## How to Order

**Threaded Type** **KQ2 H 06 – U01 A 1**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **04** | ø4 |
| **06** | ø6 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Port size**

| Symbol | | Size |
|---|---|---|
| Thread connection | **U01** | Uni1/8 |
| | **U02** | Uni1/4 |
| | **U03** | Uni3/8 |

**Oval type release button**

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Spare Parts

**How to Order Gasket**

**KQG – U01**

**Gasket for Uni One-touch fittings**

**Applicable port size**

| Symbol | Size |
|---|---|
| **U01** | Uni1/8 |
| **U02** | Uni1/4 |
| **U03** | Uni3/8 |

## Oval Type Variations

**Hexagon socket head male connector**
**KQ2S** P.90



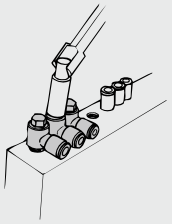
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.91



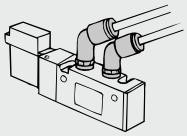
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.91



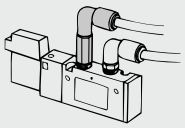
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.91



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**
**KQ2H** P.90



Use to pipe a female thread in the same direction. Most general model.

**Male run tee**
**KQ2Y** P.92



Use to branch a female thread in the same direction and at a 90° angle.

**Male elbow**
**KQ2L** P.90



Use to pipe a female thread at right angles. Most general model.

**Male branch tee**
**KQ2T** P.92



Use to branch a female thread at both 90° angles.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 7 and after for details.**

**This model does not support oval type release buttons. Refer to the round type (from page 201).**

**Branch "Y"**
**KQ2U** P.206



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

## Dimensions

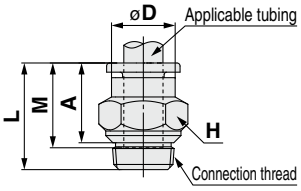
### Male Connector: KQ2H (Gasket seal)



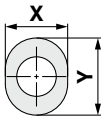
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2H04-U01□1 | 10 | — | 7.7 | 10 | 15.9 | 11.1 | 13.3 | 4.8 | 3.4 | 3 | 6.6 |
| | 1/4 | KQ2H04-U02□1 | 14 | — | 7.7 | 10 | 15.3 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 12.7 |
| ø6 | 1/8 | KQ2H06-U01□1 | 12 | 9.9 | 9.7 | 12 | 16.7 | 11.9 | 13.3 | 13.1 | 10.4 | 4.5 | 6.2 |
| | 1/4 | KQ2H06-U02□1 | 14 | — | 9.7 | 12 | 17 | 10.6 | 13.3 | 13.1 | 10.4 | 4.5 | 12.8 |
| | 3/8 | KQ2H06-U03□1 | 17 | — | 9.7 | 12 | 14.9 | 8.5 | 13.3 | 13.1 | 10.4 | 4.5 | 18.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



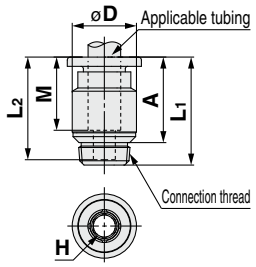

### Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



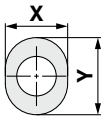
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-U01□1 | 3 | 10 | 7.7 | 10 | 20.6 | 19.6 | 15.8 | 13.3 | 4.1 | 3.6 | 3.1 | 8 |
| ø6 | 1/8 | KQ2S06-U01□1 | 4 | 12 | 9.7 | 12 | 19.8 | 18.8 | 15 | 13.3 | 10 | 9.9 | 4.1 | 8.2 |
| | 1/4 | KQ2S06-U02□1 | 4 | 14 | 9.7 | 12 | 19.8 | 18.8 | 13.4 | 13.3 | 10.7 | 10 | 4.1 | 12.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



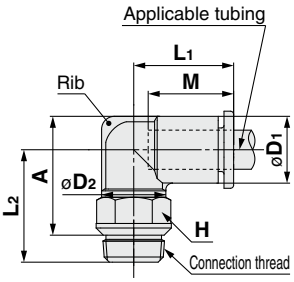

### Male Elbow: KQ2L (Gasket seal)



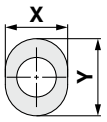
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2L04-U01□1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.4 | 15.7 | 13.3 | 4.6 | 3.3 | 3 | 4.8 | ● |
| | 1/4 | KQ2L04-U02□1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.2 | 16.9 | 13.3 | 4.6 | 3.3 | 3 | 11.5 | ● |
| ø6 | 1/8 | KQ2L06-U01□1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.5 | 17.9 | 13.3 | 11.4 | 9 | 4.5 | 5.3 | — |
| | 1/4 | KQ2L06-U02□1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 20.3 | 19.1 | 13.3 | 11.4 | 9 | 4.5 | 12 | — |
| | 3/8 | KQ2L06-U03□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21.4 | 20.2 | 13.3 | 11.4 | 9 | 4.5 | 21.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



## Dimensions

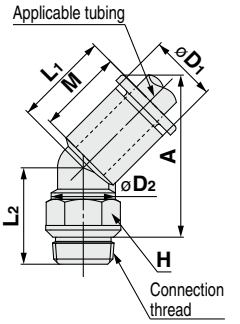
### 45° Male Elbow: KQ2K (Gasket seal)



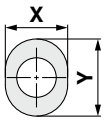
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-U01□1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.4 | 12.9 | 20.8 | 13.3 | 4.8 | 3.4 | 4.5 | 4.7 |
| | 1/4 | KQ2K04-U02□1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.4 | 14.7 | 21 | 13.3 | 4.8 | 3.4 | 4.5 | 11.3 |
| ø6 | 1/8 | KQ2K06-U01□1 | 10 | 10.4 | 9.7 | 12 | 10 | 14.7 | 15 | 23.8 | 13.3 | 8.7 | 6.9 | 4.5 | 5.1 |
| | 1/4 | KQ2K06-U02□1 | 14 | 10.4 | 9.7 | 12 | 10 | 14.7 | 16.8 | 24 | 13.3 | 8.7 | 6.9 | 4.5 | 11.7 |
| | 3/8 | KQ2K06-U03□1 | 17 | 10.4 | 9.7 | 12 | 10 | 14.7 | 17.9 | 25.1 | 13.3 | 8.7 | 6.9 | 4.5 | 21.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



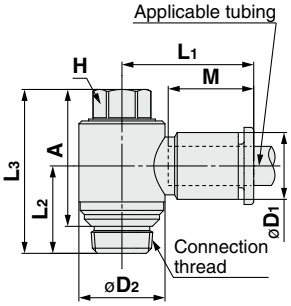

### Universal Male Elbow: KQ2V (Gasket seal)



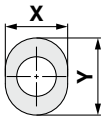
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-U01□1 | 8 | 8.2 | 7.7 | 10 | 13.4 | 19.3 | 13.6 | 25.5 | 20.7 | 13.3 | 2.9 | 2.9 | 4.5 | 13.5 |
| ø6 | 1/8 | KQ2V06-U01□1 | 8 | 10.4 | 9.7 | 12 | 13.4 | 20.5 | 13.6 | 25.5 | 20.7 | 13.3 | 7.5 | 5.9 | 4.5 | 13.9 |
| | 1/4 | KQ2V06-U02□1 | 10 | 10.4 | 9.7 | 12 | 15.3 | 19.9 | 15.4 | 28 | 21.6 | 13.3 | 7.5 | 5.9 | 4.5 | 21.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



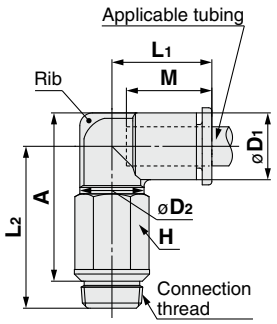

### Extended Male Elbow: KQ2W (Gasket seal)



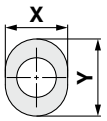
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2W04-U01□1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 24.1 | 23.4 | 13.3 | 4 | 4 | 3 | 8.3 | ● |
| | 1/4 | KQ2W04-U02□1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 30.1 | 27.8 | 13.3 | 4 | 4 | 3 | 23.9 | ● |
| ø6 | 1/8 | KQ2W06-U01□1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 31.2 | 31.6 | 13.3 | 10.9 | 8.6 | 4.5 | 11.5 | — |
| | 1/4 | KQ2W06-U02□1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 31.2 | 30 | 13.3 | 10.9 | 8.6 | 4.5 | 24.3 | — |
| | 3/8 | KQ2W06-U03□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 32.3 | 31.1 | 13.3 | 10.9 | 8.6 | 4.5 | 41 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



## Dimensions

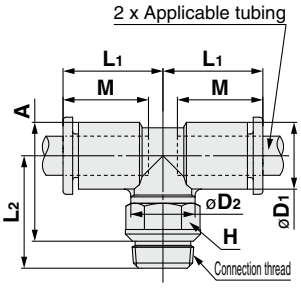
### Male Branch Tee: KQ2T (Gasket seal)



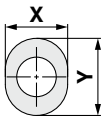
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2T04-U01□1 | 10 | 8.2 | 7.7 | 10 | 10 | 14.8 | 16.4 | 15.7 | 13.3 | 6 | 4.1 | 3 | 5.5 |
| | 1/4 | KQ2T04-U02□1 | 14 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.2 | 16.9 | 13.3 | 6 | 4.1 | 3 | 12.2 |
| ø6 | 1/8 | KQ2T06-U01□1 | 10 | 10.4 | 9.7 | 12 | 10 | 15.5 | 17.5 | 17.9 | 13.3 | 13.9 | 11 | 4.5 | 6.2 |
| | 1/4 | KQ2T06-U02□1 | 14 | 10.4 | 9.7 | 12 | 10 | 15.5 | 20.3 | 19.1 | 13.3 | 13.9 | 11 | 4.5 | 12.9 |
| | 3/8 | KQ2T06-U03□1 | 17 | 10.4 | 9.7 | 12 | 10 | 15.5 | 21.4 | 20.2 | 13.3 | 13.9 | 11 | 4.5 | 22.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



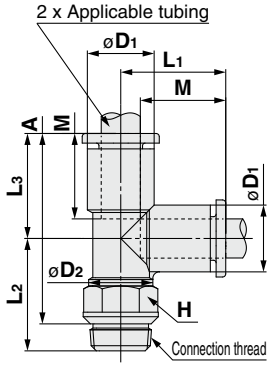

### Male Run Tee: KQ2Y (Gasket seal)



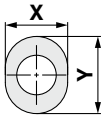
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Y04-U01□1 | 10 | 8.2 | 7.7 | 10 | 10 | 15.3 | 16.4 | 15.3 | 26.9 | 13.3 | 6.4 | 4 | 3 | 5.6 |
| | 1/4 | KQ2Y04-U02□1 | 14 | 8.2 | 7.7 | 10 | 10 | 15.3 | 19.2 | 15.3 | 28.1 | 13.3 | 6.4 | 4 | 3 | 12.2 |
| ø6 | 1/8 | KQ2Y06-U01□1 | 10 | 10.4 | 9.7 | 12 | 10 | 16.3 | 17.5 | 16.3 | 29 | 13.3 | 13.4 | 10.6 | 4.5 | 6.3 |
| | 1/4 | KQ2Y06-U02□1 | 14 | 10.4 | 9.7 | 12 | 10 | 16.3 | 20.3 | 16.3 | 30.2 | 13.3 | 13.4 | 10.6 | 4.5 | 13 |
| | 3/8 | KQ2Y06-U03□1 | 17 | 10.4 | 9.7 | 12 | 10 | 16.3 | 21.4 | 16.3 | 31.3 | 13.3 | 13.4 | 10.6 | 4.5 | 22.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Light gray |
| **X41** | With fixed orifice∗2 |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Male connector/KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |

## 2 Clean Series

Please consult with SMC separately for applicable models.

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H06-U01N1**

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **KQG-U01** | Uni1/8 |
| | **KQG-U02** | Uni1/4 |
| | **KQG-U03** | Uni3/8 |

# Oval Type Inch Size Uni One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: Rc, G, NPT, NPTF

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

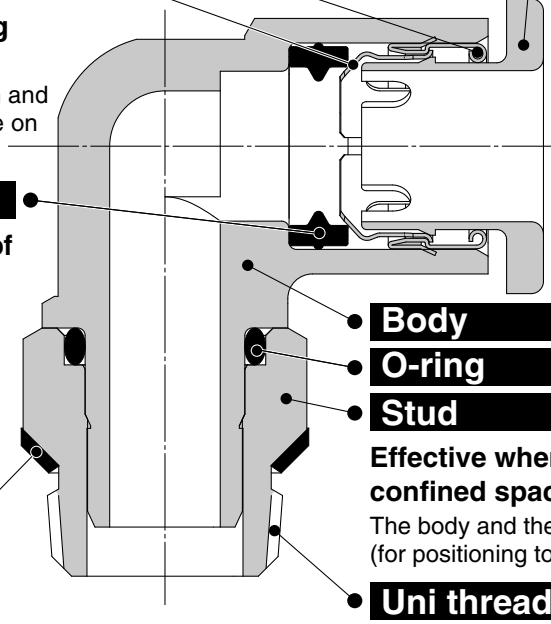
The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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

**Gasket**



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

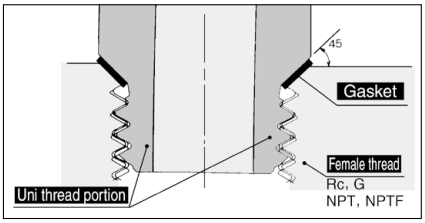
**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**Uni thread**




**Uni thread ridge shape**

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

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

**Drastically cuts piping work-hours with the gasket seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16" |

## Specifications

| | |
|---|---|
| **Fluid** | Air, Water*1 |
| **Operating pressure range***2 | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | 3 MPa |
| **Ambient and fluid temperature** | −5 to 60°C, Water: 0 to 40°C (No freezing) |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

Made to Order

**Made to Order**

**(Refer to page 100 for details.)**

## How to Order

### Threaded Type

**KQ2 H 05 – U01 A 1**

- **KQ2**: One-touch fittings
- **H**: Model

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **L** | Male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |

- **05**: Applicable tubing O.D.

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |

- **U01**: Port size

| Symbol | | Size |
|---|---|---|
| Thread connection | **U01** | Uni1/8 |
| | **U02** | Uni1/4 |

- **A**: Thread material/Surface treatment

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

- **1**: Oval type release button

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Spare Parts

**How to Order Gasket**

**KQG – U01**

- **KQG**: Gasket for Uni One-touch fittings
- **U01**: Applicable port size

| Symbol | Size |
|---|---|
| **U01** | Uni1/8 |
| **U02** | Uni1/4 |

## Oval Type Variations

**Male connector**
**KQ2H** P.98



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**
**KQ2L** P.98



Use to pipe a female thread at right angles. Most general model.

**Extended male elbow**
**KQ2W** P.98



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.

**Male run tee**
**KQ2Y** P.99



Use to branch a female thread in the same direction and at a 90° angle.

**Male branch tee**
**KQ2T** P.99



Use to branch a female thread at both 90° angles.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | Refer to page 31 and after for details. |

**This model does not support oval type release buttons. Refer to the round type (from page 209).**

**Branch "Y"**
**KQ2U** P.213



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

## Dimensions

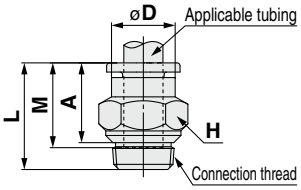
### Male Connector: KQ2H (Gasket seal)



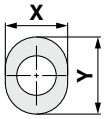
| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD | Release button dimensions X | Release button dimensions Y | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2H01-U01□1 | 11.11 | — | 6.7 | 9.5 | 15.2 | 10.4 | 13.3 | 3.4 | 2.9 | 2.5 | 7.9 |
| | 1/4 | KQ2H01-U02□1 | 14.29 | — | 6.7 | 9.5 | 15.3 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 13.7 |
| ø5/32 | 1/8 | KQ2H03-U01□1 | 11.11 | — | 7.7 | 10 | 15.7 | 10.9 | 13.3 | 4.8 | 3.4 | 3 | 7.7 |
| | 1/4 | KQ2H03-U02□1 | 14.29 | — | 7.7 | 10 | 15.3 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 13 |
| ø3/16 | 1/8 | KQ2H05-U01□1 | 12.7 | 8.55 | 8.4 | 11 | 16 | 11.2 | 13.3 | 6.8 | 5.6 | 3.5 | 7.7 |
| | 1/4 | KQ2H05-U02□1 | 14.29 | — | 8.4 | 11 | 15.3 | 8.9 | 13.3 | 6.8 | 5.6 | 3.5 | 12.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



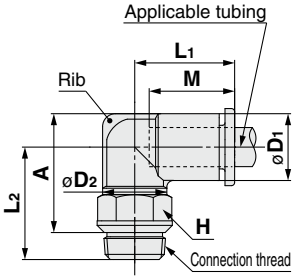

### Male Elbow: KQ2L (Gasket seal)



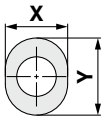
| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2L01-U01□1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 17.9 | 16.7 | 13.3 | 3 | 2.5 | 2.5 | 6 | — |
| | 1/4 | KQ2L01-U02□1 | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 19.2 | 16.4 | 13.3 | 3 | 2.5 | 2.5 | 12.1 | — |
| ø5/32 | 1/8 | KQ2L03-U01□1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 17.4 | 16.7 | 13.3 | 4.6 | 3.3 | 3 | 6.2 | ● |
| | 1/4 | KQ2L03-U02□1 | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.7 | 17.4 | 13.3 | 4.6 | 3.3 | 3 | 12.3 | ● |
| ø3/16 | 1/8 | KQ2L05-U01□1 | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 17.9 | 17.7 | 13.3 | 6.8 | 5.6 | 3.5 | 6.4 | — |
| | 1/4 | KQ2L05-U02□1 | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 20.2 | 18.4 | 13.3 | 6.8 | 5.6 | 3.5 | 12.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



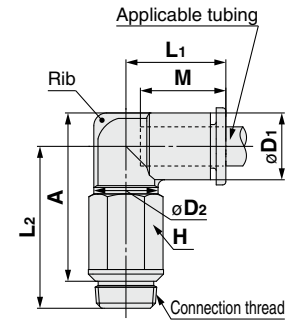

### Extended Male Elbow: KQ2W (Gasket seal)



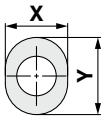
| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2W01-U01□1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 31.5 | 30.3 | 13.3 | 2.8 | 2.4 | 2.5 | 14.5 | — |
| | 1/4 | KQ2W01-U02□1 | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 30.8 | 28 | 13.3 | 2.8 | 2.4 | 2.5 | 26 | — |
| ø5/32 | 1/8 | KQ2W03-U01□1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 31.1 | 30.4 | 13.3 | 4 | 4 | 3 | 14.6 | ● |
| | 1/4 | KQ2W03-U02□1 | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 31.3 | 29 | 13.3 | 4 | 4 | 3 | 26.2 | ● |
| ø3/16 | 1/8 | KQ2W05-U01□1 | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 31.6 | 31.3 | 13.3 | 6.8 | 5.6 | 3.5 | 14.8 | — |
| | 1/4 | KQ2W05-U02□1 | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 31.8 | 30 | 13.3 | 6.8 | 5.6 | 3.5 | 26.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



## Dimensions

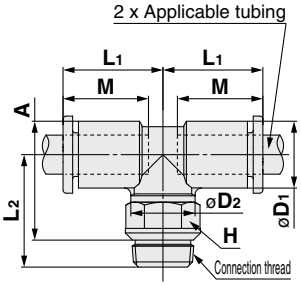
### Male Branch Tee: KQ2T (Gasket seal)



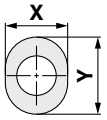
| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2T01-U01□1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 17.8 | 16.6 | 13.3 | 3.4 | 2.9 | 2.5 | 6.6 |
| | 1/4 | KQ2T01-U02□1 | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.5 | 19.1 | 16.3 | 13.3 | 3.4 | 2.9 | 2.5 | 12.7 |
| ø5/32 | 1/8 | KQ2T03-U01□1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 14.8 | 17.4 | 16.7 | 13.3 | 6 | 4.1 | 3 | 6.9 |
| | 1/4 | KQ2T03-U02□1 | 14.29 | 8.2 | 7.7 | 10 | 10 | 14.8 | 19.7 | 17.4 | 13.3 | 6 | 4.1 | 3 | 13 |
| ø3/16 | 1/8 | KQ2T05-U01□1 | 11.11 | 9.1 | 8.4 | 11 | 10 | 15 | 17.9 | 17.6 | 13.3 | 6.8 | 5.6 | 3.5 | 7.1 |
| | 1/4 | KQ2T05-U02□1 | 14.29 | 9.1 | 8.4 | 11 | 10 | 15 | 20.2 | 18.3 | 13.3 | 6.8 | 5.6 | 3.5 | 13.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



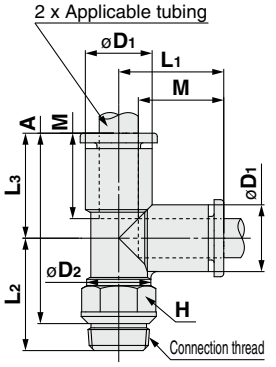

### Male Run Tee: KQ2Y (Gasket seal)



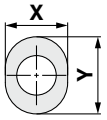
| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD1 | Release button dimensions X | Release button dimensions Y | øD2 | L1 | L2 | L3 | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2Y01-U01□1 | 11.11 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 17.8 | 14.9 | 28 | 13.3 | 3.4 | 2.9 | 2.5 | 6.6 |
| | 1/4 | KQ2Y01-U02□1 | 14.29 | 7.1 | 6.7 | 9.5 | 10 | 14.9 | 19.1 | 14.9 | 27.7 | 13.3 | 3.4 | 2.9 | 2.5 | 12.8 |
| ø5/32 | 1/8 | KQ2Y03-U01□1 | 11.11 | 8.2 | 7.7 | 10 | 10 | 15.3 | 17.4 | 15.3 | 27.9 | 13.3 | 6.4 | 4.4 | 3 | 6.9 |
| | 1/4 | KQ2Y03-U02□1 | 14.29 | 8.2 | 7.7 | 10 | 10 | 15.3 | 19.7 | 15.3 | 28.6 | 13.3 | 6.4 | 4.4 | 3 | 13.1 |
| ø3/16 | 1/8 | KQ2Y05-U01□1 | 11.11 | 9.1 | 8.4 | 11 | 10 | 15.7 | 17.9 | 15.7 | 28.8 | 13.3 | 6.8 | 5.6 | 3.5 | 7.2 |
| | 1/4 | KQ2Y05-U02□1 | 14.29 | 9.1 | 8.4 | 11 | 10 | 15.7 | 20.2 | 15.7 | 29.5 | 13.3 | 6.8 | 5.6 | 3.5 | 13.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




**Release button dimensions**



# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |

∗1 The following model is not available as made-to-order: Male connector/ KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |

## 2 Clean Series

Please consult with SMC separately for applicable models.

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H05-U01N1**

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **KQG-U01** | Uni1/8 |
| | **KQG-U02** | Uni1/4 |

# Metric Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

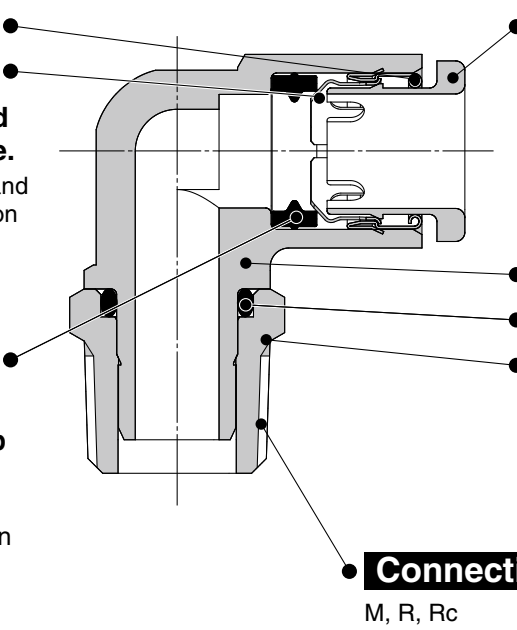
**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Light gray)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

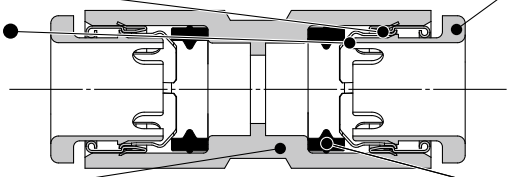
**Connection thread**

M, R, Rc

**Guide**

**Chuck**

**Body**



**Release button (Light gray)**

**Seal**

∗ Fittings without thread portion, and with all resin body material are copper free specification.

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



**Made to Order**
**(Refer to page 131 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø2, ø3.2, ø4, ø6, ø8, ø10, ø12, ø16 |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water∗1 |
| **Operating pressure range**∗2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping)<br>JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Seal on the threads** | | With sealant |

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT, PP, Stainless steel 303 |
| Stud | C3604 (Thread portion), Stainless steel 303 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

### Threaded Type

**KQ2 H 06 – 01 A S**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **LU** | Branch male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **LF** | Female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **Z** | Branch universal male elbow |
| **ZF** | Branch universal female elbow |
| **ZD** | Double branch universal male elbow |
| **ZT** | Triple branch universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **D** | Male delta union |
| **U** | Branch "Y" |
| **UD** | Double branch "Y" |
| **E** | Bulkhead union |
| | Bulkhead connector |
| **LE** | Bulkhead male elbow |
| **N** | Adapter |

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Thread material/Surface treatment**

| Symbol | | Thread material/Surface treatment |
|---|---|---|
| **A** | | Brass |
| **N** | | Brass + Electroless nickel plating |
| **G** | | Stainless steel 303 (Connection thread: Only male thread and M3) |
| Bulkhead union | **□J** | Interchangeable with KJE |

∗ □: A, N

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

| Symbol | | Size |
|---|---|---|
| Tubing connection | **00**∗1 | Same dia. tubing |
| Thread connection | **M3** | M3 x 0.5 |
| | **M5** | M5 x 0.8 |
| | **M6** | M6 x 1.0 |
| | **01** | R1/8, Rc1/8 |
| | **02** | R1/4, Rc1/4 |
| | **03** | R3/8, Rc3/8 |
| | **04** | R1/2, Rc1/2 |

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **02** | ø2 |
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |
| **08** | ø8 |
| **10** | ø10 |
| **12** | ø12 |
| **16** | ø16 |

**Spare Parts**

Use the part number below to order the gasket for M3, M5, and M6 threads.

Gasket for M3 thread: M-3G2
Gasket for M5 thread: M-5G2
Gasket for M6 thread: M-6G

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Tube – Tube Type

**KQ2 H 06 – 00 A**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Straight union |
| | Different diameter straight |
| **L** | Union elbow |
| | Plug-in elbow |
| | Reducer elbow |
| **LU** | Branch union elbow |
| **W** | Extended plug-in elbow |
| **T** | Union tee |
| | Different diameter tee |
| **TW** | Cross |
| **TX** | Different diameter cross |
| **TY** | Different diameter cross |
| **D** | Delta union |
| **U** | Union "Y" |
| | Plug-in "Y" |
| | Different diameter union "Y" |
| **UD** | Different diameter double union "Y" |
| **X** | Different diameter plug-in "Y" |
| **R** | Plug-in reducer |
| **XD** | Double plug-in "Y" |

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

| Symbol | | Size |
|---|---|---|
| Tubing (Rod) connection | **00** | Same diameter tubing |
| | **99** | Same diameter rod |
| Different dia. tubing (Reducer) | **23** | ø3.2 |
| | **04** | ø4 |
| | **06** | ø6 |
| | **08** | ø8 |
| | **10** | ø10 |
| | **12** | ø12 |
| | **16** | ø16 |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **02** | ø2 |
| **23** | ø3.2 |
| **04** | ø4 |
| **06** | ø6 |
| **08** | ø8 |
| **10** | ø10 |
| **12** | ø12 |
| **16** | ø16 |

**Accessories**

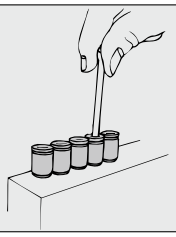
| Symbol | Name |
|---|---|
| **KQ2N** | Nipple |
| | Reducer nipple |
| **KQ2C** | Tube cap |
| **KQ2P** | Plug |

## Round Type Variations

**Hexagon socket head male connector**
**KQ2S** P.107



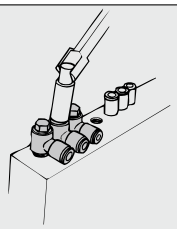
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.112



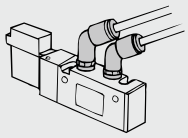
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.111



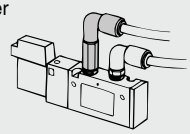
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.118



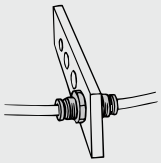
Basically, it is used together with a male elbow.
Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.128



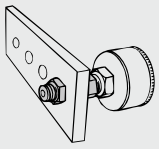
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.128



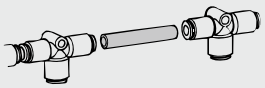
Use to connect a male thread and tubing through a panel, etc.



**Nipple**
**KQ2N** P.130



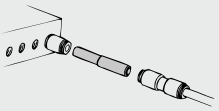
Use to connect One-touch fittings.



**Reducer nipple**
**KQ2N** P.130



Use to connect One-touch fittings of different sizes.



**Universal female elbow**
**KQ2VF** P.113



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Branch universal female elbow**
**KQ2ZF** P.115



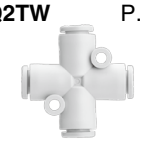
Use to two-branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Male connector**
**KQ2H** P.105



Use to pipe a female thread in the same direction. Most general model.

**Cross**
**KQ2TW** P.121



Use to four-branch a line.

**Reducer elbow**
**KQ2L** P.109



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

**Female connector**
**KQ2F** P.106



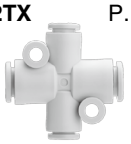
Use to pipe a male thread of a pressure gauge, etc.

**Male elbow**
**KQ2L** P.108



Use to pipe a female thread at right angles. Most general model.

**Different diameter cross**
**KQ2TX** P.121



Use to four-branch a line and connect tubing of reduced size at both 90° angles.

**Straight union**
**KQ2H** P.105



Use to connect tubing in the same direction.

**Union elbow**
**KQ2L** P.109



Use to connect tubing at right angles.

**Male branch tee**
**KQ2T** P.119



Use to branch a female thread at both 90° angles.

**Different diameter straight**
**KQ2H** P.106



Use to connect tubing of different sizes.

**Plug-in elbow**
**KQ2L** P.109



Use to change the tube direction of One-touch fittings by 90°.

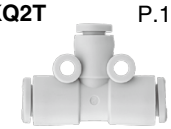
**Union tee**
**KQ2T** P.120

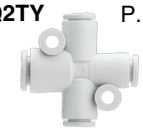


Use to branch tubing at both 90° angles.

**Different diameter tee**
**KQ2T** P.120

Use to connect tubing of reduced size for branching at both 90° angles.

**Different diameter tee**
**KQ2T** P.120

Use to connect tubing of reduced size for branching at a 90° angle from two pipes running in the same direction.

**Different diameter cross**
**KQ2TY** P.121

Use to connect tubing of reduced size for branching in three directions.

**Hexagon socket head universal male elbow**
**KQ2VS** P.112

Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Branch male elbow**
**KQ2LU** P.110

Use to two-branch a female thread at right angles.

**Female elbow**
**KQ2LF** P.117

Use to pipe a male thread at right angles.

**Double universal male elbow**
**KQ2VD** P.114

Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Triple universal male elbow**
**KQ2VT** P.114

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

**Branch universal male elbow**
**KQ2Z** P.115

Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

**Double branch universal male elbow**
**KQ2ZD** P.116

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

**Male run tee**
**KQ2Y** P.122

Use to branch a female thread in the same direction and at a 90° angle.

**Triple branch universal male elbow**
**KQ2ZT** P.116

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

**Branch union elbow**
**KQ2LU** P.109

Use to branch tubing at right angles.

**Extended plug-in elbow**
**KQ2W** P.117

Use to change the tube direction of One-touch fittings by 90°. Multi-leveled piping is also possible with the plug-in elbow.

**Male delta union**
**KQ2D** P.123

Use to branch a female thread at two right angles.

**Delta union**
**KQ2D** P.124

Use to branch tubing at three right angles.

**Double branch "Y"**
**KQ2UD** P.126

Use to four-branch a female thread.

**Different diameter double union "Y"**
**KQ2UD** P.126

Use to connect tubing of reduced size for four-branching in the same direction.

**Different diameter plug-in "Y"**
**KQ2X** P.127

Use to branch One-touch fittings and connect tubing of reduced size in the same direction.

**Double plug-in "Y"**
**KQ2XD** P.127

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

**Union "Y"**
**KQ2U** P.125

Use to branch tubing in the same direction.

**Different diameter union "Y"**
**KQ2U** P.125

Use to connect tubing of reduced size for branching in the same direction.

**Plug-in "Y"**
**KQ2U** P.125

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

**Branch "Y"**
**KQ2U** P.124

Use to branch a female thread in the same direction.

**Plug-in reducer**
**KQ2R** P.128

Use to change size of One-touch fittings.

**Bulkhead male elbow**
**KQ2LE** P.129

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

**Adapter**
**KQ2N** P.129

Use to connect One-touch fittings and R female threads.

**Tube cap**
**KQ2C** P.130

Use to plug unused tubing.

**Color cap**
**KQ2C** P.130

Mount onto the release button and use different colors for piping according to applications.

**Plug**
**KQ2P** P.129

Use to plug unused One-touch fittings.

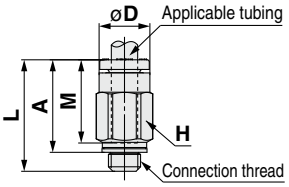
## Dimensions

### Male Connector: KQ2H (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | **KQ2H02-M3G** | 5.5 | 5.5 | 15.6 | 13 | 11.9 | — | 0.9 | 1.2 | 1.5 |
| | M5 x 0.8 | **KQ2H02-M5□** | 7 | 5.5 | 13.8 | 10.8 | 11.9 | — | 0.9 | 1.4 | 2 |
| ø3.2 | M3 x 0.5 | **KQ2H23-M3G** | 7 | 6.7 | 17 | 14.4 | 13.3 | 0.9 | 0.9 | 1.2 | 2.4 |
| | M5 x 0.8 | **KQ2H23-M5□** | 7 | 6.7 | 17.3 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 2.7 |
| ø4 | M3 x 0.5 | **KQ2H04-M3G** | 8 | 7.7 | 17.1 | 14.5 | 13.3 | 0.9 | 0.9 | 1.2 | 2.9 |
| | M5 x 0.8 | **KQ2H04-M5□** | 8 | 7.7 | 17.7 | 14.7 | 13.3 | 4 | 4 | 2.5 | 3.3 |
| | M6 x 1.0 | **KQ2H04-M6□** | 8 | 7.7 | 18.7 | 14.7 | 13.3 | 5.6 | 4 | 3 | 3.6 |
| ø6 | M5 x 0.8 | **KQ2H06-M5□** | 10 | 9.7 | 17.7 | 14.7 | 13.3 | 4 | 4 | 2.5 | 4.1 |
| | M6 x 1.0 | **KQ2H06-M6□** | 10 | 9.7 | 18.8 | 14.8 | 13.3 | 5.6 | 5.6 | 3 | 4.4 |

□: A (Brass), N (Brass + Electroless nickel plating)



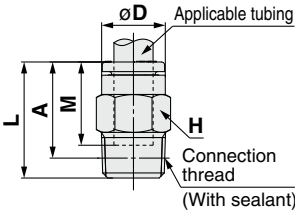

### Male Connector: KQ2H (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | **KQ2H23-01□S** | 10 | 6.7 | 14 | 10.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | **KQ2H23-02□S** | 14 | 6.7 | 16.7 | 12 | 13.3 | 3.4 | 2.9 | 2.5 | 15.3 |
| ø4 | 1/8 | **KQ2H04-01□S** | 10 | 7.7 | 14.3 | 11.2 | 13.3 | 4.8 | 3.4 | 3 | 5.6 |
| | 1/4 | **KQ2H04-02□S** | 14 | 7.7 | 16.7 | 12 | 13.3 | 4.8 | 3.4 | 3 | 14.6 |
| ø6 | 1/8 | **KQ2H06-01□S** | 10 | 9.7 | 18.4 | 15.3 | 13.3 | 13.1 | 10.4 | 4.5 | 5.8 |
| | 1/4 | **KQ2H06-02□S** | 14 | 9.7 | 16.7 | 12 | 13.3 | 13.1 | 10.4 | 4.5 | 12.5 |
| | 3/8 | **KQ2H06-03□S** | 17 | 9.7 | 18.1 | 13 | 13.3 | 13.1 | 10.4 | 4.5 | 24.5 |
| ø8 | 1/8 | **KQ2H08-01□S** | 14 | 13 | 22.5 | 19.4 | 14.2 | 26.1 | 18 | 6 | 11.9 |
| | 1/4 | **KQ2H08-02□S** | 14 | 13 | 22 | 17.3 | 14.2 | 26.1 | 18 | 6 | 13.9 |
| | 3/8 | **KQ2H08-03□S** | 17 | 13 | 18.1 | 13 | 14.2 | 26.1 | 18 | 6 | 21 |
| ø10 | 1/8 | **KQ2H10-01□S** | 17 | 15.6 | 23.8 | 20.7 | 15.6 | 26.1 | 26.1 | 6 | 16.9 |
| | 1/4 | **KQ2H10-02□S** | 17 | 15.6 | 27.3 | 22.6 | 15.6 | 41.5 | 29.5 | 7.5 | 22.1 |
| | 3/8 | **KQ2H10-03□S** | 17 | 15.6 | 23.5 | 18.4 | 15.6 | 41.5 | 29.5 | 7.5 | 22.5 |
| | 1/2 | **KQ2H10-04□S** | 22 | 15.6 | 22.3 | 15.9 | 15.6 | 41.5 | 29.5 | 7.5 | 44.7 |
| ø12 | 1/4 | **KQ2H12-02□S** | 19 | 18.2 | 28.7 | 24 | 17 | 58.3 | 46.1 | 9 | 24.3 |
| | 3/8 | **KQ2H12-03□S** | 19 | 18.2 | 25.9 | 20.8 | 17 | 58.3 | 46.1 | 9 | 25.2 |
| | 1/2 | **KQ2H12-04□S** | 22 | 18.2 | 22.3 | 15.9 | 17 | 58.3 | 46.1 | 9 | 37.7 |
| ø16 | 1/4 | **KQ2H16-02□S** | 24 | 23.6 | 32.5 | 27.8 | 20.6 | 58.3 | 58.3 | 9 | 37.4 |
| | 3/8 | **KQ2H16-03□S** | 24 | 23.6 | 33.1 | 28 | 20.6 | 81 | 67 | 11 | 42.4 |
| | 1/2 | **KQ2H16-04□S** | 24 | 23.6 | 32.1 | 25.7 | 20.6 | 113 | 67 | 13 | 44.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

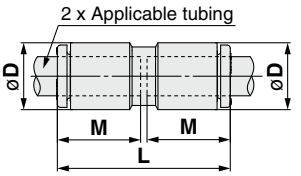



### Straight Union: KQ2H



| Applicable tubing O.D. [mm] | Model | øD*1 | L | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø2 | **KQ2H02-00A** | 5.8 | 24.8 | 11.9 | — | 0.9 | 1.4 | 0.8 |
| ø3.2 | **KQ2H23-00A** | 7.1 | 27.6 | 13.3 | 3.4 | 2.9 | 2.5 | 1.4 |
| ø4 | **KQ2H04-00A** | 8.2 | 27.6 | 13.3 | 5.6 | 4 | 3 | 1.6 |
| ø6 | **KQ2H06-00A** | 10.4 | 27.6 | 13.3 | 13.1 | 10.4 | 4.5 | 2.1 |
| ø8 | **KQ2H08-00A** | 13.2 | 29.4 | 14.2 | 26.1 | 18 | 6 | 3.7 |
| ø10 | **KQ2H10-00A** | 15.9 | 32.2 | 15.6 | 41.5 | 29.5 | 7.5 | 5.5 |
| ø12 | **KQ2H12-00A** | 18.5 | 35 | 17 | 58.3 | 46.1 | 9 | 8.2 |
| ø16 | **KQ2H16-00A** | 23.8 | 42.2 | 20.6 | 113 | 67 | 13 | 15.2 |

*1 øD is maximum diameter.



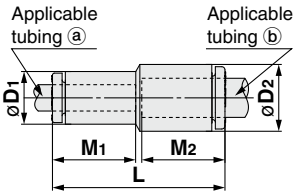
## Dimensions

### Different Diameter Straight: KQ2H



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | *1 øD1 | *1 øD2 | L | M1 | M2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | ø3.2 | KQ2H02-23A | 5.8 | 7.1 | 26.2 | 11.9 | 13.3 | — | 0.9 | 1.4 | 1.1 |
| ø2 | ø4 | KQ2H02-04A | 5.8 | 8.2 | 26.2 | 11.9 | 13.3 | — | 0.9 | 1.4 | 1.2 |
| ø3.2 | ø4 | KQ2H23-04A | 7.1 | 8.2 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.5 |
| ø3.2 | ø6 | KQ2H23-06A | 7.1 | 10.4 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.8 |
| ø4 | ø6 | KQ2H04-06A | 8.2 | 10.4 | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 2 |
| ø6 | ø8 | KQ2H06-08A | 10.4 | 13.2 | 28.5 | 13.3 | 14.2 | 13.1 | 10.4 | 4.5 | 2.9 |
| ø8 | ø10 | KQ2H08-10A | 13.2 | 15.9 | 30.8 | 14.2 | 15.6 | 26.1 | 18 | 6 | 4.9 |
| ø10 | ø12 | KQ2H10-12A | 15.9 | 18.5 | 33.6 | 15.6 | 17 | 41.5 | 29.5 | 7.5 | 7.2 |
| ø12 | ø16 | KQ2H12-16A | 18.5 | 23.8 | 38.6 | 17 | 20.6 | 58.3 | 46.1 | 9 | 12.4 |

*1 øD1, øD2 are maximum diameters.



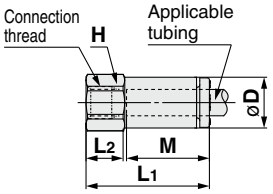

### Female Connector: KQ2F



| Applicable tubing O.D. [mm] | Connection thread Rc | Model | H (Width across flats) | *1 øD | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M3 x 0.5 | KQ2F23-M3□ | 7 | 6.9 | 17.3 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.1 |
| | M5 x 0.8 | KQ2F23-M5□ | 7 | 6.9 | 19.7 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.3 |
| ø4 | M3 x 0.5 | KQ2F04-M3□ | 8 | 7.9 | 16.5 | 5.7 | 13.3 | 4 | 4 | 2.5 | 4.1 |
| | M5 x 0.8 | KQ2F04-M5□ | 8 | 7.9 | 19.6 | 5.7 | 13.3 | 4 | 4 | 3 | 4.5 |
| | 1/8 | KQ2F04-01□ | 14 | 7.9 | 24.1 | 8.5 | 13.3 | 5.6 | 4 | 3 | 12 |
| | 1/4 | KQ2F04-02□ | 17 | 7.9 | 29 | 12.9 | 13.3 | 5.6 | 4 | 3 | 21.5 |
| ø6 | M5 x 0.8 | KQ2F06-M5□ | 10 | 9.9 | 17.6 | 5.7 | 13.3 | 10 | 10 | 4.1 | 5.5 |
| | 1/8 | KQ2F06-01□ | 14 | 9.9 | 23.6 | 8.5 | 13.3 | 13.1 | 10.4 | 4.5 | 12.2 |
| | 1/4 | KQ2F06-02□ | 17 | 9.9 | 28.5 | 12.9 | 13.3 | 13.1 | 10.4 | 4.5 | 21.6 |
| | 3/8 | KQ2F06-03□ | 19 | 9.9 | 29.9 | 13.4 | 13.3 | 13.1 | 10.4 | 4.5 | 22.7 |
| ø8 | 1/8 | KQ2F08-01□ | 14 | 13 | 24.1 | 8.5 | 14.2 | 26.1 | 18 | 6 | 12.9 |
| | 1/4 | KQ2F08-02□ | 17 | 13 | 29 | 12.2 | 14.2 | 26.1 | 18 | 6 | 22.1 |
| | 3/8 | KQ2F08-03□ | 19 | 13 | 30.4 | 13.4 | 14.2 | 26.1 | 18 | 6 | 30.7 |
| ø10 | 1/4 | KQ2F10-02□ | 17 | 15.6 | 30 | 12.9 | 15.6 | 41.5 | 29.5 | 7.5 | 24.2 |
| | 3/8 | KQ2F10-03□ | 19 | 15.6 | 31.3 | 13.3 | 15.6 | 41.5 | 29.5 | 7.5 | 25.5 |
| ø12 | 1/4 | KQ2F12-02□ | 19 | 18.2 | 30.9 | 12.1 | 17 | 58.3 | 46.1 | 9 | 32.6 |
| | 3/8 | KQ2F12-03□ | 19 | 18.2 | 32.3 | 13.3 | 17 | 58.3 | 46.1 | 9 | 27.6 |
| | 1/2 | KQ2F12-04□ | 24 | 18.2 | 36.3 | 15.9 | 17 | 58.3 | 46.1 | 9 | 46.3 |
| ø16 | 3/8 | KQ2F16-03□ | 24 | 23.6 | 34.7 | 12.6 | 20.6 | 81 | 67 | 13 | 53.8 |
| | 1/2 | KQ2F16-04□ | 24 | 23.6 | 38.7 | 15.9 | 20.6 | 113 | 67 | 13 | 51.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



## Dimensions

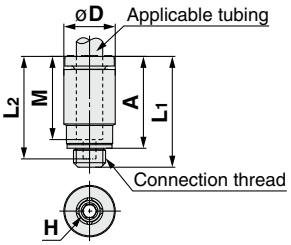
### Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | *1 øD | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | KQ2S02-M3G | 1.5 | 5.5 | 15.7 | 14.7 | 13.1 | 11.9 | — | 0.9 | 1.5 | 1.7 |
| ø3.2 | M3 x 0.5 | KQ2S23-M3G | 1.5 | 7 | 17.1 | 16.1 | 14.5 | 13.3 | 1.4 | 1.4 | 1.5 | 2.2 |
| | M5 x 0.8 | KQ2S23-M5□ | 2 | 7 | 17.5 | 16.3 | 14.5 | 13.3 | 2.5 | 2.5 | 2 | 2.6 |
| ø4 | M3 x 0.5 | KQ2S04-M3G | 1.5 | 8 | 17.1 | 16.1 | 14.5 | 13.3 | 1.4 | 1.4 | 1.5 | 2.3 |
| | M5 x 0.8 | KQ2S04-M5□ | 2.5 | 8 | 18.6 | 17.8 | 15.6 | 13.3 | 4 | 4 | 2.5 | 3 |
| | M6 x 1.0 | KQ2S04-M6□ | 3 | 8 | 18.5 | 17.8 | 14.5 | 13.3 | 4 | 4 | 3.1 | 4.1 |
| ø6 | M5 x 0.8 | KQ2S06-M5□ | 2.5 | 10 | 19.5 | 17.8 | 16.5 | 13.3 | 4 | 4 | 2.5 | 3.5 |
| | M6 x 1.0 | KQ2S06-M6□ | 3 | 10 | 19.1 | 18.1 | 15.1 | 13.3 | 4 | 4 | 3.1 | 5.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.




### Hexagon Socket Head Male Connector: KQ2S (Sealant)

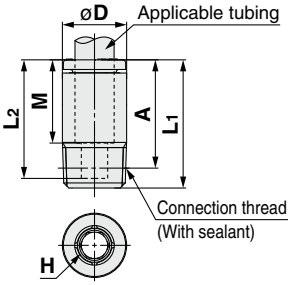


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | *1 øD | L1 | L2 | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-01□S | 3 | 9.8 | 19.7 | 18.8 | 16.6 | 13.3 | 4.1 | 3.6 | 3.1 | 8.1 |
| ø6 | 1/8 | KQ2S06-01□S | 4 | 10 | 20 | 18.8 | 16.9 | 13.3 | 10 | 9.9 | 4.1 | 6.5 |
| | 1/4 | KQ2S06-02□S | 4 | 13.8 | 19.8 | 18.8 | 15.1 | 13.3 | 10.7 | 10 | 4.1 | 13.4 |
| ø8 | 1/8 | KQ2S08-01□S | 5 | 13 | 22.9 | 19.7 | 19.8 | 14.2 | 17.2 | 16.2 | 5.1 | 10.2 |
| | 1/4 | KQ2S08-02□S | 6 | 14 | 23.2 | 19.5 | 18.5 | 14.2 | 23.3 | 16.2 | 6.1 | 14.3 |
| | 3/8 | KQ2S08-03□S | 6 | 17 | 20.7 | 19.7 | 15.6 | 14.2 | 23.3 | 16.2 | 6.1 | 21.1 |
| ø10 | 1/8 | KQ2S10-01□S | 5 | 15.6 | 24.3 | 21.1 | 21.2 | 15.6 | 17.2 | 16.2 | 5.1 | 12 |
| | 1/4 | KQ2S10-02□S | 8 | 15.6 | 24.6 | 20.1 | 19.9 | 15.6 | 39 | 26.6 | 8.1 | 12.4 |
| | 3/8 | KQ2S10-03□S | 8 | 17 | 25.1 | 20.1 | 20 | 15.6 | 39 | 26.6 | 8.1 | 23.2 |
| | 1/2 | KQ2S10-04□S | 8 | 22 | 21.1 | 20.1 | 14.7 | 15.6 | 39 | 26.6 | 8.1 | 37.4 |
| ø12 | 1/4 | KQ2S12-02□S | 8 | 18.2 | 29 | 21.5 | 24.3 | 17 | 46 | 44.5 | 8.1 | 21 |
| | 3/8 | KQ2S12-03□S | 10 | 18.2 | 26.4 | 21.8 | 21.3 | 17 | 60 | 44.5 | 10.1 | 21.2 |
| | 1/2 | KQ2S12-04□S | 10 | 22 | 22.8 | 21.8 | 16.4 | 17 | 60 | 44.5 | 10.1 | 30.5 |
| ø16 | 1/4 | KQ2S16-02□S | 8 | 23.6 | 32.5 | 25.1 | 27.8 | 20.6 | 46 | 46 | 8.1 | 25.7 |
| | 3/8 | KQ2S16-03□S | 10 | 23.6 | 33.5 | 25.4 | 28.4 | 20.6 | 81 | 67 | 10.1 | 38.3 |
| | 1/2 | KQ2S16-04□S | 12 | 23.6 | 33.4 | 26.1 | 27 | 20.6 | 113 | 67 | 12.1 | 43.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.

*2 Reference dimensions after installation of R thread



## Dimensions

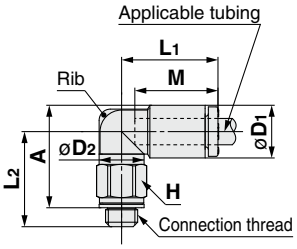
### Male Elbow: KQ2L (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | KQ2L02-M3G | 5.5 | 5.8 | 5.5 | 12.6 | 12.5 | 12.8 | 11.9 | — | 0.8 | 1.2 | 1.6 | ● |
| | M5 x 0.8 | KQ2L02-M5□ | 7 | 5.8 | 5.5 | 12.6 | 13 | 12.9 | 11.9 | — | 0.8 | 1.4 | 2.7 | ● |
| ø3.2 | M3 x 0.5 | KQ2L23-M3G | 7 | 7.1 | 7 | 15.3 | 13.8 | 14.8 | 13.3 | 0.8 | 0.8 | 1.2 | 2.7 | ● |
| | M5 x 0.8 | KQ2L23-M5□ | 7 | 7.1 | 7 | 15.3 | 14.3 | 14.9 | 13.3 | 2.6 | 2.2 | 2.5 | 3.1 | ● |
| ø4 | M3 x 0.5 | KQ2L04-M3G | 7 | 8.2 | 7 | 15.4 | 14.3 | 15.8 | 13.3 | 0.8 | 0.8 | 1.2 | 2.7 | ● |
| | M5 x 0.8 | KQ2L04-M5□ | 7 | 8.2 | 7 | 15.4 | 14.8 | 15.9 | 13.3 | 3.5 | 3.5 | 2.5 | 3.1 | ● |
| | M6 x 1.0 | KQ2L04-M6□ | 8 | 8.2 | 7 | 15.4 | 15.8 | 15.9 | 13.3 | 3.5 | 3.5 | 2.5 | 4.2 | ● |
| ø6 | M5 x 0.8 | KQ2L06-M5□ | 7 | 10.4 | 7 | 14.5 | 16.5 | 18.7 | 13.3 | 3.5 | 3.5 | 2.5 | 3.2 | ● |
| | M6 x 1.0 | KQ2L06-M6□ | 8 | 10.4 | 7 | 14.5 | 17.5 | 18.7 | 13.3 | 3.5 | 3.5 | 2.5 | 4.3 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



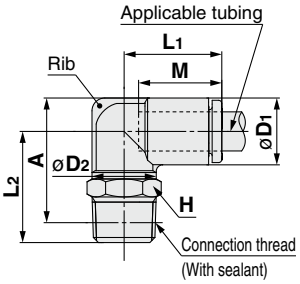

### Male Elbow: KQ2L (Sealant)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2L23-01□S | 10 | 7.1 | 10 | 14.5 | 16.7 | 17.2 | 13.3 | 3 | 2.5 | 2.5 | 4.6 | — |
| | 1/4 | KQ2L23-02□S | 14 | 7.1 | 10 | 14.5 | 21.2 | 20.1 | 13.3 | 3 | 2.5 | 2.5 | 14.1 | — |
| ø4 | 1/8 | KQ2L04-01□S | 10 | 8.2 | 10 | 14.8 | 16.2 | 17.2 | 13.3 | 4.6 | 3.3 | 3 | 4.8 | ● |
| | 1/4 | KQ2L04-02□S | 14 | 8.2 | 10 | 14.8 | 21.7 | 21.1 | 13.3 | 4.6 | 3.3 | 3 | 14.3 | ● |
| ø6 | 1/8 | KQ2L06-01□S | 10 | 10.4 | 10 | 15.5 | 17.3 | 19.4 | 13.3 | 11.4 | 9 | 4.5 | 5.2 | — |
| | 1/4 | KQ2L06-02□S | 14 | 10.4 | 10 | 15.5 | 22.8 | 23.3 | 13.3 | 11.4 | 9 | 4.5 | 14.7 | — |
| | 3/8 | KQ2L06-03□S | 17 | 10.4 | 10 | 15.5 | 24.1 | 24.2 | 13.3 | 11.4 | 9 | 4.5 | 26.5 | — |
| ø8 | 1/8 | KQ2L08-01□S | 10 | 13.2 | 10 | 16.4 | 18.7 | 22.2 | 14.2 | 11.4 | 11.4 | 4.5 | 6.1 | ● |
| | | KQ2L08-01□QS *3 | 12 | 13.2 | 12 | 17.2 | 23.5 | 27.0 | 14.2 | 21.6 | 14.9 | 6 | 9.3 | ● |
| | 1/4 | KQ2L08-02□S | 14 | 13.2 | 12 | 17.2 | 25.4 | 27.3 | 14.2 | 21.6 | 14.9 | 6 | 17.7 | ● |
| | 3/8 | KQ2L08-03□S | 17 | 13.2 | 12 | 17.2 | 25.5 | 27.0 | 14.2 | 21.6 | 14.9 | 6 | 24.7 | ● |
| ø10 | 1/8 | KQ2L10-01□S | 12 | 15.9 | 12 | 18.6 | 23.6 | 28.4 | 15.6 | 21.6 | 14.9 | 6 | 11.1 | ● |
| | 1/4 | KQ2L10-02□S | 17 | 15.9 | 17 | 19.3 | 28.7 | 31.9 | 15.6 | 35.2 | 25 | 7.5 | 21.7 | ● |
| | 3/8 | KQ2L10-03□S | 17 | 15.9 | 17 | 19.3 | 29.6 | 32.4 | 15.6 | 35.2 | 25 | 7.5 | 22.2 | ● |
| | 1/2 | KQ2L10-04□S | 22 | 15.9 | 17 | 19.3 | 33.6 | 35.1 | 15.6 | 35.2 | 25 | 7.5 | 44.6 | ● |
| ø12 | 1/4 | KQ2L12-02□S | 17 | 18.5 | 17 | 21.5 | 30.0 | 34.5 | 17 | 50.2 | 39.7 | 9 | 23.5 | ● |
| | 3/8 | KQ2L12-03□S | 17 | 18.5 | 17 | 21.5 | 30.9 | 35.0 | 17 | 50.2 | 39.7 | 9 | 24.1 | ● |
| | 1/2 | KQ2L12-04□S | 22 | 18.5 | 17 | 21.5 | 34.9 | 37.7 | 17 | 50.2 | 39.7 | 9 | 46.5 | ● |
| ø16 | 1/4 | KQ2L16-02□S | 17 | 23.8 | 17 | 25.1 | 32.6 | 39.8 | 20.6 | 50.2 | 50.2 | 9 | 27.8 | ● |
| | 3/8 | KQ2L16-03□S | 22 | 23.8 | 21 | 27.1 | 35.4 | 42.2 | 20.6 | 71 | 58.9 | 11 | 40.8 | — |
| | 1/2 | KQ2L16-04□S | 22 | 23.8 | 21 | 27.1 | 34.1 | 39.6 | 20.6 | 100 | 58.9 | 13 | 44.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 131.



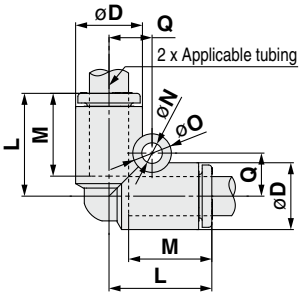
## Dimensions

### Union Elbow: KQ2L



| Applicable tubing O.D. [mm] | Model | *1 øD | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | KQ2L23-00A | 7.1 | 14.9 | 5.4 | 13.3 | 6 | 3.2 | 3 | 2.5 | 2.5 | 1.6 |
| ø4 | KQ2L04-00A | 8.2 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 4.2 | 4.2 | 3 | 1.9 |
| ø6 | KQ2L06-00A | 10.4 | 16.3 | 6.8 | 13.3 | 6 | 3.2 | 11.4 | 9 | 4.5 | 2.7 |
| ø8 | KQ2L08-00A | 13.2 | 18.2 | 8.4 | 14.2 | 8 | 4.2 | 21.6 | 14.9 | 6 | 4.7 |
| ø10 | KQ2L10-00A | 15.9 | 20.6 | 9.6 | 15.6 | 8 | 4.2 | 35.2 | 25 | 7.5 | 7.1 |
| ø12 | KQ2L12-00A | 18.5 | 23 | 10.7 | 17 | 8 | 4.2 | 50.2 | 39.7 | 9 | 10.3 |
| ø16 | KQ2L16-00A | 23.8 | 28.6 | 13.4 | 20.6 | 8 | 4.2 | 100 | 58.9 | 13 | 19.7 |

*1 øD is maximum diameter.

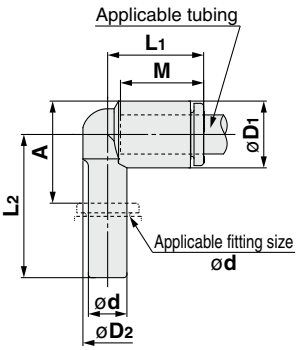



### Plug-in Elbow: KQ2L



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | *1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø3.2 | KQ2L23-99A | 7.1 | 6.4 | 14.4 | 20.9 | 11.1 | 13.3 | 3 | 2.5 | 2.2 | 0.9 |
| ø4 | ø4 | KQ2L04-99A | 8.2 | 7.2 | 14.5 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 2.5 | 1.2 |
| ø6 | ø6 | KQ2L06-99A | 10.4 | 8 | 15.3 | 22.3 | 14.2 | 13.3 | 9 | 9 | 4 | 1.8 |
| ø8 | ø8 | KQ2L08-99A | 13.2 | 10 | 17.2 | 26.2 | 18.6 | 14.2 | 21.6 | 14.9 | 6 | 3 |
| ø10 | ø10 | KQ2L10-99A | 15.9 | 12 | 19.3 | 28.2 | 20.5 | 15.6 | 35.2 | 25 | 7.5 | 4.7 |
| ø12 | ø12 | KQ2L12-99A | 18.5 | 14 | 21.5 | 31 | 23.2 | 17 | 50.2 | 39.7 | 9 | 7 |
| ø16 | ø16 | KQ2L16-99A | 23.8 | 20 | 27.1 | 36.8 | 28.1 | 20.6 | 100 | 58.9 | 13 | 13.7 |

*1 øD1 is maximum diameter.

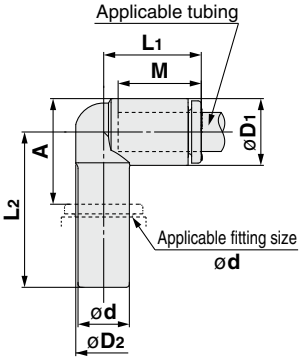



### Reducer Elbow: KQ2L



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | *1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø4 | KQ2L23-04A | 7.1 | 6.4 | 14.5 | 23.9 | 14.1 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø6 | KQ2L23-06A | 7.1 | 6.4 | 14.5 | 24.1 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 1.3 |
| ø4 | ø6 | KQ2L04-06A | 8.2 | 7.2 | 14.8 | 24.6 | 15.4 | 13.3 | 4.2 | 4.2 | 3 | 1.5 |
| | ø8 | KQ2L04-08A | 8.2 | 7.2 | 14.8 | 29.5 | 19.4 | 13.3 | 4.2 | 4.2 | 3 | 1.8 |
| ø6 | ø8 | KQ2L06-08A | 10.4 | 9 | 15.5 | 24.2 | 15.2 | 13.3 | 11.4 | 9 | 4.5 | 2.1 |
| | ø10 | KQ2L06-10A | 10.4 | 9 | 15.5 | 31.6 | 21.2 | 13.3 | 11.4 | 9 | 4.5 | 2.7 |
| ø8 | ø10 | KQ2L08-10A | 13.2 | 10 | 18.8 | 27.1 | 18.1 | 14.2 | 21.6 | 14.9 | 6 | 3.5 |
| | ø12 | KQ2L08-12A | 13.2 | 10 | 18.8 | 34 | 23.6 | 14.2 | 21.6 | 14.9 | 6 | 4.9 |
| ø10 | ø12 | KQ2L10-12A | 15.9 | 12 | 19.3 | 35.6 | 26.5 | 15.6 | 35.2 | 25 | 7.5 | 5.6 |
| ø12 | ø16 | KQ2L12-16A | 18.5 | 14 | 21.5 | 42.6 | 31.2 | 17 | 50.2 | 39.7 | 9 | 8.7 |

*1 øD1 is maximum diameter.

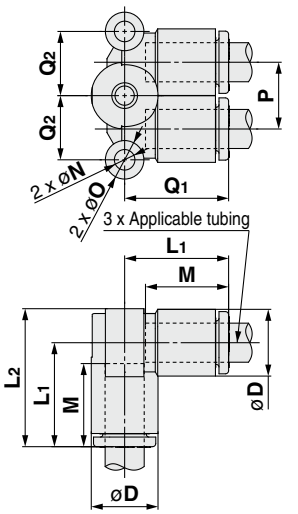



### Branch Union Elbow: KQ2LU



| Applicable tubing O.D. [mm] | Model | *1 øD | L1 | L2 | Q1 | Q2 | M | P | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | KQ2LU04-00A | 8.2 | 15.8 | 19.9 | 15.8 | 7.9 | 13.3 | 8.2 | 6 | 3.2 | 6 | 4.1 | 3 | 3.1 |
| ø6 | KQ2LU06-00A | 10.4 | 16.5 | 21.7 | 16.5 | 10 | 13.3 | 10.4 | 6 | 3.2 | 13.9 | 11 | 4.5 | 4.4 |
| ø8 | KQ2LU08-00A | 13.2 | 18.2 | 24.8 | 18.2 | 13.1 | 14.2 | 13.2 | 8 | 4.2 | 26.3 | 18.2 | 6 | 8 |
| ø10 | KQ2LU10-00A | 15.9 | 20.3 | 28.3 | 20.3 | 15.9 | 15.6 | 15.9 | 8 | 4.2 | 40.8 | 29 | 7.5 | 12.2 |
| ø12 | KQ2LU12-00A | 18.5 | 22.5 | 31.7 | 22.5 | 17.9 | 17 | 18.5 | 8 | 4.2 | 57.2 | 45.2 | 9 | 18.1 |

*1 øD is maximum diameter.



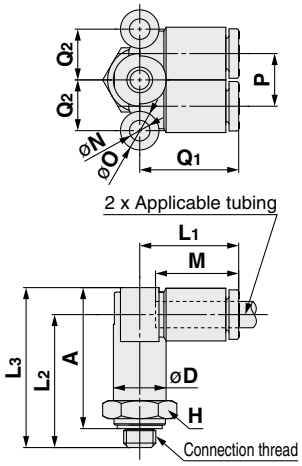
## Dimensions

### Branch Male Elbow: KQ2LU (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD | L1 | L2 | L3 | A | M | P | øO | øN | Q1 | Q2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2LU04-M5□ | 10 | 8.2 | 15.8 | 20.7 | 24.8 | 21.8 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 4.3 | 4.1 | 1.8 | 6.9 |
| | M6 x 1.0 | KQ2LU04-M6□ | 10 | 8.2 | 15.8 | 21.7 | 25.8 | 21.8 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 4.3 | 4.1 | 3 | 6.8 |
| ø6 | M5 x 0.8 | KQ2LU06-M5□ | 12 | 10.4 | 16.5 | 21.4 | 26.6 | 23.6 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 4.3 | 4.3 | 1.8 | 10.3 |
| | M6 x 1.0 | KQ2LU06-M6□ | 12 | 10.4 | 16.5 | 22.4 | 27.6 | 23.6 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 4.3 | 4.3 | 3 | 10.3 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD is maximum diameter.

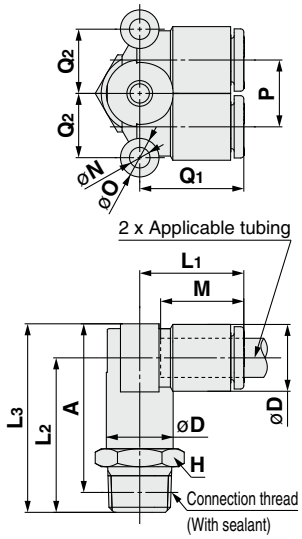



### Branch Male Elbow: KQ2LU (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD | L1 | L2 | L3 | A∗2 | M | P | øO | øN | Q1 | Q2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2LU04-01□S | 10 | 8.2 | 15.8 | 23.3 | 27.4 | 24.3 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 6 | 4.1 | 3 | 9.5 |
| | 1/4 | KQ2LU04-02□S | 14 | 8.2 | 15.8 | 27.7 | 31.8 | 27.1 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 6 | 4.1 | 3 | 19.3 |
| ø6 | 1/8 | KQ2LU06-01□S | 12 | 10.4 | 16.5 | 24 | 29.2 | 26.1 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 10.6 |
| | 1/4 | KQ2LU06-02□S | 14 | 10.4 | 16.5 | 28.4 | 33.6 | 28.9 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 19.5 |
| | 3/8 | KQ2LU06-03□S | 17 | 10.4 | 16.5 | 29.8 | 35 | 29.9 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 31.5 |
| ø8 | 1/8 | KQ2LU08-01□S | 14 | 13.2 | 18.2 | 25.7 | 32.3 | 29.2 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 16.4 |
| | 1/4 | KQ2LU08-02□S | 14 | 13.2 | 18.2 | 30.1 | 36.7 | 32 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 21.5 |
| | 3/8 | KQ2LU08-03□S | 17 | 13.2 | 18.2 | 31.5 | 38.1 | 33 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 33.3 |
| ø10 | 1/4 | KQ2LU10-02□S | 17 | 15.9 | 20.3 | 32.2 | 40.2 | 35.5 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 26.6 |
| | 3/8 | KQ2LU10-03□S | 17 | 15.9 | 20.3 | 33.6 | 41.6 | 36.5 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 34.4 |
| | 1/2 | KQ2LU10-04□S | 22 | 15.9 | 20.3 | 37.8 | 45.8 | 39.4 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 62.3 |
| ø12 | 1/4 | KQ2LU12-02□S | 19 | 18.5 | 22.5 | 34.4 | 43.6 | 38.9 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 37.7 |
| | 3/8 | KQ2LU12-03□S | 19 | 18.5 | 22.5 | 35.8 | 45 | 39.9 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 40.6 |
| | 1/2 | KQ2LU12-04□S | 22 | 18.5 | 22.5 | 40 | 49.2 | 42.8 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 62.7 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD is maximum diameter.
∗2 Reference dimensions after installation of R thread



## Dimensions

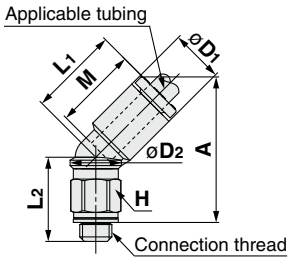
### 45° Male Elbow: KQ2K (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2K04-M5□ | 7 | 8.2 | 8 | 14.4 | 13.1 | 22.8 | 13.3 | 3.4 | 3.4 | 2.5 | 3 |
| | M6 x 1.0 | KQ2K04-M6□ | 8 | 8.2 | 8 | 14.4 | 14.1 | 22.8 | 13.3 | 3.4 | 3.4 | 2.5 | 4.1 |
| ø6 | M5 x 0.8 | KQ2K06-M5□ | 7 | 10.4 | 8 | 14.4 | 17 | 27.4 | 13.3 | 3.4 | 3.4 | 2.5 | 3.5 |
| | M6 x 1.0 | KQ2K06-M6□ | 8 | 10.4 | 8 | 14.4 | 18 | 27.4 | 13.3 | 3.4 | 3.4 | 2.5 | 4.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.




### 45° Male Elbow: KQ2K (Sealant)



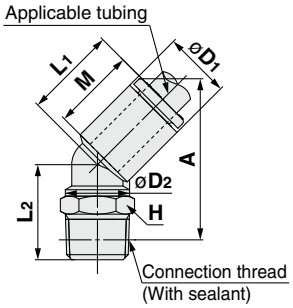
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-01□S | 10 | 8.2 | 10 | 14.4 | 12.7 | 22.3 | 13.3 | 4.8 | 3.4 | 3 | 4.6 |
| | 1/4 | KQ2K04-02□S | 14 | 8.2 | 10 | 14.4 | 17.2 | 25.2 | 13.3 | 4.8 | 3.4 | 3 | 14.1 |
| ø6 | 1/8 | KQ2K06-01□S | 10 | 10.4 | 10 | 14.7 | 14.8 | 25.3 | 13.3 | 8.7 | 6.9 | 4.5 | 5 |
| | 1/4 | KQ2K06-02□S | 14 | 10.4 | 10 | 14.7 | 19.3 | 28.2 | 13.3 | 8.7 | 6.9 | 4.5 | 14.5 |
| | 3/8 | KQ2K06-03□S | 17 | 10.4 | 10 | 14.7 | 20.6 | 29.1 | 13.3 | 8.7 | 6.9 | 4.5 | 26.2 |
| ø8 | 1/8 | KQ2K08-01□S | 10 | 13.2 | 10 | 16 | 15.7 | 28 | 14.2 | 8.7 | 8.7 | 4.5 | 6 |
| | | KQ2L08-01□QS *3 | 12 | 13.2 | 12 | 16 | 20.5 | 32.8 | 14.2 | 19.7 | 19.7 | 6 | 9.1 |
| | 1/4 | KQ2K08-02□S | 14 | 13.2 | 12 | 16 | 22.4 | 33.1 | 14.2 | 19.7 | 19.7 | 6 | 17.5 |
| | 3/8 | KQ2K08-03□S | 17 | 13.2 | 12 | 16 | 22.5 | 32.8 | 14.2 | 19.7 | 19.7 | 6 | 24.5 |
| ø10 | 1/8 | KQ2K10-01□S | 12 | 15.9 | 12 | 18.2 | 21.5 | 36.2 | 15.6 | 30.9 | 23.2 | 6 | 11.1 |
| | 1/4 | KQ2K10-02□S | 17 | 15.9 | 17 | 17.6 | 29.1 | 41.8 | 15.6 | 30.9 | 23.2 | 7.5 | 21.8 |
| | 3/8 | KQ2K10-03□S | 17 | 15.9 | 17 | 17.6 | 24.3 | 36.6 | 15.6 | 30.9 | 23.2 | 7.5 | 21.7 |
| | 1/2 | KQ2K10-04□S | 22 | 15.9 | 17 | 17.6 | 28.3 | 39.3 | 15.6 | 30.9 | 23.2 | 7.5 | 44.1 |
| ø12 | 1/4 | KQ2K12-02□S | 17 | 18.5 | 17 | 19.4 | 29 | 43.8 | 17 | 44.5 | 35.1 | 9 | 23.3 |
| | 3/8 | KQ2K12-03□S | 17 | 18.5 | 17 | 19.4 | 24.2 | 38.6 | 17 | 44.5 | 35.1 | 9 | 23.2 |
| | 1/2 | KQ2K12-04□S | 22 | 18.5 | 17 | 19.4 | 28.2 | 41.3 | 17 | 44.5 | 35.1 | 9 | 45.7 |
| ø16 | 1/4 | KQ2K16-02□S | 17 | 23.8 | 17 | 24.3 | 29.6 | 49.2 | 20.6 | 44.5 | 44.5 | 9 | 27.7 |
| | 3/8 | KQ2K16-03□S | 22 | 23.8 | 21 | 23.8 | 31.4 | 50.2 | 20.6 | 65.8 | 58 | 11 | 39.2 |
| | 1/2 | KQ2K16-04□S | 22 | 23.8 | 21 | 23.8 | 30.1 | 47.6 | 20.6 | 91.9 | 58 | 13 | 42.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.

*2 Reference dimensions after installation of R thread

*3 For details, refer to page 131.



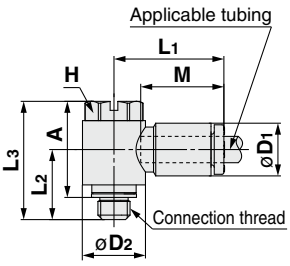
## Dimensions

### Universal Male Elbow: KQ2V (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2V04-M5□ | 8 | 8.2 | 9.8 | 17.5 | 10.9 | 18.4 | 14.9 | 13.3 | 2.9 | 2.9 | 2.5 | 5.4 |
| ø6 | M5 x 0.8 | KQ2V06-M5□ | 8 | 10.4 | 9.8 | 18.3 | 10.9 | 18.4 | 15.4 | 13.3 | 3.8 | 3.8 | 2.5 | 5.7 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.

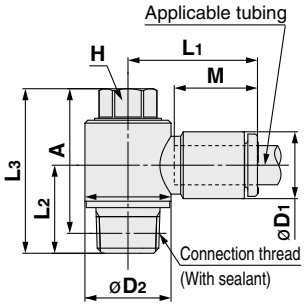



### Universal Male Elbow: KQ2V (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-01□S | 8 | 8.2 | 13.4 | 19.3 | 13.7 | 25.6 | 22.5 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø6 | 1/8 | KQ2V06-01□S | 8 | 10.4 | 13.4 | 20.5 | 13.7 | 25.6 | 22.5 | 13.3 | 7.5 | 5.9 | 4.5 | 13.5 |
| | 1/4 | KQ2V06-02□S | 10 | 10.4 | 15.3 | 19.9 | 17.9 | 30.5 | 25.8 | 13.3 | 7.5 | 5.9 | 4.5 | 24.9 |
| ø8 | 1/8 | KQ2V08-01□S | 12 | 13.2 | 17.6 | 23.5 | 15.1 | 27.6 | 24.5 | 14.2 | 16 | 11.2 | 6 | 22.6 |
| | 1/4 | KQ2V08-02□S | 12 | 13.2 | 17.6 | 23.5 | 18.5 | 31 | 26.3 | 14.2 | 16 | 11.2 | 6 | 29.1 |
| | 3/8 | KQ2V08-03□S | 14 | 13.2 | 20.6 | 23.1 | 19.5 | 35.3 | 30.2 | 14.2 | 16 | 11.2 | 6 | 44.4 |
| ø10 | 1/4 | KQ2V10-02□S | 14 | 15.9 | 20.6 | 25.9 | 19.9 | 34.9 | 30.2 | 15.6 | 27 | 20.3 | 7.5 | 38.1 |
| | 3/8 | KQ2V10-03□S | 14 | 15.9 | 20.6 | 25.9 | 20.3 | 35.3 | 30.2 | 15.6 | 27 | 20.3 | 7.5 | 45.7 |
| ø12 | 3/8 | KQ2V12-03□S | 17 | 18.5 | 25.2 | 28.5 | 21.4 | 37.6 | 32.5 | 17 | 39 | 30.8 | 9 | 59.6 |
| | 1/2 | KQ2V12-04□S | 17 | 18.5 | 25.2 | 28.5 | 24.6 | 40.8 | 34.4 | 17 | 39 | 30.8 | 9 | 78.2 |
| ø16 | 3/8 | KQ2V16-03□S | 21 | 23.8 | 32.3 | 34.2 | 25.1 | 45.4 | 40.3 | 20.6 | 55 | 46 | 11 | 99.5 |
| | 1/2 | KQ2V16-04□S | 21 | 23.8 | 32.3 | 34.2 | 28.3 | 48.6 | 42.2 | 20.6 | 78 | 46 | 13 | 107.9 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of R thread

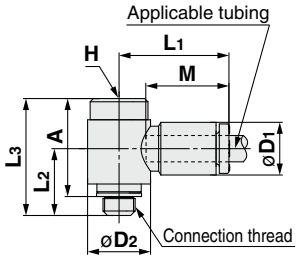



### Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2VS04-M5□ | 4 | 8.2 | 9.8 | 17.5 | 10.4 | 18.2 | 15.2 | 13.3 | 2.9 | 2.9 | 2.5 | 5.3 |
| ø6 | M5 x 0.8 | KQ2VS06-M5□ | 4 | 10.4 | 9.8 | 18.3 | 10.4 | 18.2 | 15.2 | 13.3 | 3.8 | 3.8 | 2.5 | 5.6 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.

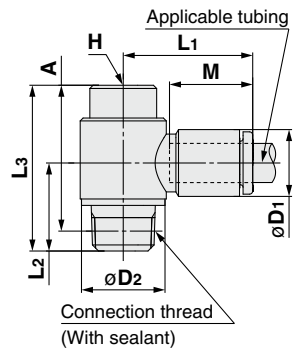



### Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VS04-01□S | 6 | 8.2 | 13.4 | 19.3 | 13.7 | 25.8 | 22.7 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø6 | 1/8 | KQ2VS06-01□S | 6 | 10.4 | 13.4 | 20.5 | 13.7 | 25.8 | 22.8 | 13.3 | 7.5 | 5.9 | 4.5 | 13.5 |
| | 1/4 | KQ2VS06-02□S | 6 | 10.4 | 15.3 | 19.9 | 17.9 | 26.5 | 21.8 | 13.3 | 7.5 | 5.9 | 4.5 | 20.8 |
| ø8 | 1/8 | KQ2VS08-01□S | 8 | 13.2 | 17.6 | 23.5 | 15.1 | 26 | 22.9 | 14.2 | 16 | 11.2 | 6 | 19.2 |
| | 1/4 | KQ2VS08-02□S | 8 | 13.2 | 17.6 | 23.5 | 18.5 | 29.5 | 24.8 | 14.2 | 16 | 11.2 | 6 | 25.7 |
| | 3/8 | KQ2VS08-03□S | 8 | 13.2 | 20.6 | 23.1 | 19.5 | 31.4 | 26.3 | 14.2 | 16 | 11.2 | 6 | 37 |
| ø10 | 1/4 | KQ2VS10-02□S | 8 | 15.9 | 20.6 | 25.9 | 19.7 | 30.8 | 26.1 | 15.6 | 27 | 20.3 | 7.5 | 30.4 |
| | 3/8 | KQ2VS10-03□S | 8 | 15.9 | 20.6 | 25.9 | 20.3 | 31.4 | 26.3 | 15.6 | 27 | 20.3 | 7.5 | 38.3 |
| ø12 | 3/8 | KQ2VS12-03□S | 10 | 18.5 | 25.2 | 28.5 | 21.4 | 35.1 | 30 | 17 | 39 | 30.8 | 9 | 51.4 |
| | 1/2 | KQ2VS12-04□S | 10 | 18.5 | 25.2 | 28.5 | 24.6 | 38.3 | 31.9 | 17 | 39 | 30.8 | 9 | 70 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of R thread



## Dimensions

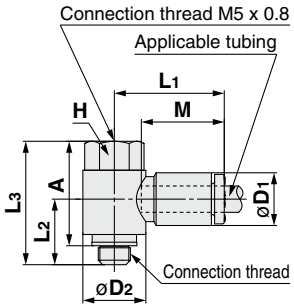
### Universal Female Elbow: KQ2VF (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2VF04-M5□ | 8 | 8.2 | 9.8 | 17.5 | 10.2 | 19.2 | 16.2 | 13.3 | 2.9 | 2.9 | 2.5 | 5.5 |
| ø6 | M5 x 0.8 | KQ2VF06-M5□ | 8 | 10.4 | 9.8 | 18.3 | 10.2 | 19.2 | 16.2 | 13.3 | 3.8 | 3.8 | 2.5 | 5.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.




### Universal Female Elbow: KQ2VF (Sealant)

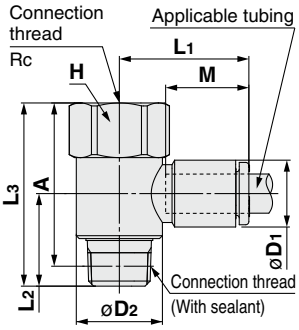


| Applicable tubing O.D. [mm] | Connection thread R, Rc | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VF04-01□S | 14 | 8.2 | 13.4 | 19.3 | 14.4 | 28.5 | 25.4 | 13.3 | 2.9 | 2.9 | 3 | 17.3 |
| ø6 | 1/8 | KQ2VF06-01□S | 14 | 10.4 | 13.4 | 20.5 | 14.4 | 28.5 | 25.4 | 13.3 | 7.5 | 5.9 | 4.5 | 17.6 |
| | 1/4 | KQ2VF06-02□S | 17 | 10.4 | 17.6 | 21.2 | 19.4 | 37.9 | 33.2 | 13.3 | 7.5 | 5.9 | 4.5 | 37 |
| ø8 | 1/8 | KQ2VF08-01□S | 17 | 13.2 | 17.6 | 23.5 | 15.5 | 30 | 26.9 | 14.2 | 16 | 11.2 | 6 | 27.5 |
| | 1/4 | KQ2VF08-02□S | 17 | 13.2 | 17.6 | 23.5 | 18.9 | 37.9 | 33.2 | 14.2 | 16 | 11.2 | 6 | 38.1 |
| | 3/8 | KQ2VF08-03□S | 22 | 13.2 | 25.2 | 24.9 | 24 | 44 | 38.9 | 14.2 | 16 | 11.2 | 6 | 64.5 |
| ø10 | 1/4 | KQ2VF10-02□S | 19 | 15.9 | 20.6 | 25.9 | 20.4 | 40.3 | 35.6 | 15.6 | 27 | 20.3 | 7.5 | 46.4 |
| | 3/8 | KQ2VF10-03□S | 22 | 15.9 | 25.2 | 26.3 | 23.2 | 44 | 38.9 | 15.6 | 27 | 20.3 | 7.5 | 65.3 |
| ø12 | 3/8 | KQ2VF12-03□S | 22 | 18.5 | 25.2 | 28.5 | 22.5 | 44 | 38.9 | 17 | 39 | 30.8 | 9 | 67.2 |
| | 1/2 | KQ2VF12-04□S | 24 | 18.5 | 27 | 29.9 | 24.4 | 48.9 | 42.5 | 17 | 39 | 30.8 | 9 | 95.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.

∗2 Reference dimensions after installation of R thread

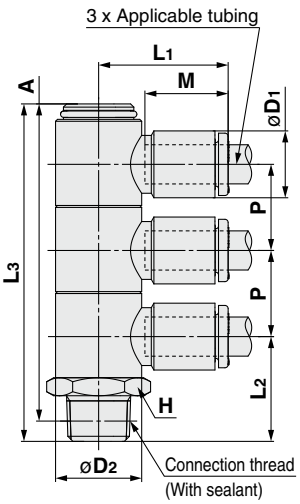


## Dimensions

### Triple Universal Male Elbow: KQ2VT (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VT04-01□S | 14 | 8.2 | 13.4 | 19.3 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 25.3 |
| | 1/4 | KQ2VT04-02□S | 14 | 8.2 | 13.4 | 19.3 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 32.9 |
| | 3/8 | KQ2VT04-03□S | 17 | 8.2 | 13.4 | 19.3 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 44.8 |
| ø6 | 1/8 | KQ2VT06-01□S | 14 | 10.4 | 13.4 | 20.5 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 26.2 |
| | 1/4 | KQ2VT06-02□S | 14 | 10.4 | 13.4 | 20.5 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 33.9 |
| | 3/8 | KQ2VT06-03□S | 17 | 10.4 | 13.4 | 20.5 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 45.8 |
| ø8 | 1/8 | KQ2VT08-01□S | 19 | 13.2 | 17.6 | 23.7 | 19 | 61.8 | 58.7 | 14.2 | 15.9 | 16 | 11.2 | 6 | 59.6 |
| | 1/4 | KQ2VT08-02□S | 19 | 13.2 | 17.6 | 23.7 | 22.4 | 65.2 | 60.5 | 14.2 | 15.9 | 16 | 11.2 | 6 | 56.8 |
| | 3/8 | KQ2VT08-03□S | 19 | 13.2 | 17.6 | 23.7 | 23 | 65.8 | 60.7 | 14.2 | 15.9 | 16 | 11.2 | 6 | 64.9 |
| | 1/2 | KQ2VT08-04□S | 22 | 13.2 | 17.6 | 23.7 | 27.2 | 70 | 63.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 91.5 |
| ø10 | 1/4 | KQ2VT10-02□S | 21 | 15.9 | 20.6 | 25.7 | 24.3 | 75.5 | 70.8 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 82 |
| | 3/8 | KQ2VT10-03□S | 21 | 15.9 | 20.6 | 25.7 | 24.7 | 75.9 | 70.8 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 81.9 |
| | 1/2 | KQ2VT10-04□S | 22 | 15.9 | 20.6 | 25.7 | 28.7 | 79.9 | 73.5 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 103.9 |
| ø12 | 1/4 | KQ2VT12-02□S | 26 | 18.5 | 25.2 | 28.9 | 26.5 | 84.1 | 79.4 | 17 | 21.6 | 39 | 30.8 | 9 | 139.3 |
| | 3/8 | KQ2VT12-03□S | 26 | 18.5 | 25.2 | 28.9 | 26.9 | 84.5 | 79.4 | 17 | 21.6 | 39 | 30.8 | 9 | 129.7 |
| | 1/2 | KQ2VT12-04□S | 26 | 18.5 | 25.2 | 28.9 | 30.1 | 87.7 | 81.3 | 17 | 21.6 | 39 | 30.8 | 9 | 142.2 |



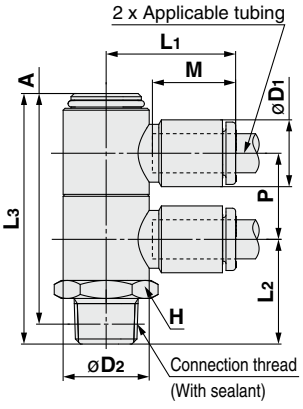

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread

### Double Universal Male Elbow: KQ2VD (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VD04-01□S | 14 | 8.2 | 13.4 | 19.3 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 19.7 |
| | 1/4 | KQ2VD04-02□S | 14 | 8.2 | 13.4 | 19.3 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 27.4 |
| | 3/8 | KQ2VD04-03□S | 17 | 8.2 | 13.4 | 19.3 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 39.3 |
| ø6 | 1/8 | KQ2VD06-01□S | 14 | 10.4 | 13.4 | 20.5 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 20.3 |
| | 1/4 | KQ2VD06-02□S | 14 | 10.4 | 13.4 | 20.5 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 28 |
| | 3/8 | KQ2VD06-03□S | 17 | 10.4 | 13.4 | 20.5 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 39.9 |
| ø8 | 1/8 | KQ2VD08-01□S | 19 | 13.2 | 17.6 | 23.7 | 19 | 45.8 | 42.7 | 14.2 | 15.9 | 16 | 11.2 | 6 | 45.1 |
| | 1/4 | KQ2VD08-02□S | 19 | 13.2 | 17.6 | 23.7 | 22.4 | 49.2 | 44.5 | 14.2 | 15.9 | 16 | 11.2 | 6 | 44.3 |
| | 3/8 | KQ2VD08-03□S | 19 | 13.2 | 17.6 | 23.7 | 23 | 49.8 | 44.7 | 14.2 | 15.9 | 16 | 11.2 | 6 | 52.3 |
| | 1/2 | KQ2VD08-04□S | 22 | 13.2 | 17.6 | 23.7 | 27.2 | 54 | 47.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 78.4 |
| ø10 | 1/4 | KQ2VD10-02□S | 21 | 15.9 | 20.6 | 25.7 | 24.3 | 56.2 | 51.5 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 63.1 |
| | 3/8 | KQ2VD10-03□S | 21 | 15.9 | 20.6 | 25.7 | 24.7 | 56.6 | 51.5 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 65.1 |
| | 1/2 | KQ2VD10-04□S | 22 | 15.9 | 20.6 | 25.7 | 28.7 | 60.6 | 54.2 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 87 |
| ø12 | 1/4 | KQ2VD12-02□S | 26 | 18.5 | 25.2 | 28.9 | 26.5 | 62.4 | 57.7 | 17 | 21.6 | 39 | 30.8 | 9 | 107 |
| | 3/8 | KQ2VD12-03□S | 26 | 18.5 | 25.2 | 28.9 | 26.9 | 62.8 | 57.7 | 17 | 21.6 | 39 | 30.8 | 9 | 102.1 |
| | 1/2 | KQ2VD12-04□S | 26 | 18.5 | 25.2 | 28.9 | 30.1 | 66 | 59.6 | 17 | 21.6 | 39 | 30.8 | 9 | 116.1 |




□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread

## Dimensions

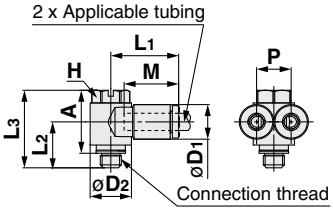
### Branch Universal Male Elbow: KQ2Z (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2Z04-M5□ | 8 | 8.2 | 9.8 | 16.5 | 11.4 | 18.4 | 14.9 | 13.3 | 8.2 | 3.4 | 3.4 | 2.5 | 6.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.




### Branch Universal Male Elbow: KQ2Z (Sealant)

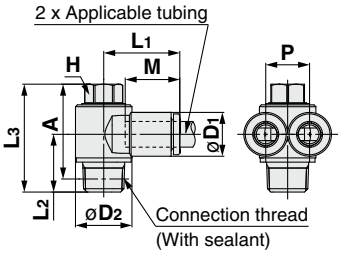


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Z04-01□S | 8 | 8.2 | 13.4 | 18.5 | 13.7 | 25.6 | 22.5 | 13.3 | 8.2 | 4.7 | 4.7 | 3 | 14 |
| ø6 | 1/8 | KQ2Z06-01□S | 8 | 10.4 | 13.4 | 18.4 | 13.7 | 25.6 | 22.5 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 14.6 |
| | 1/4 | KQ2Z06-02□S | 14 | 10.4 | 20.6 | 21.5 | 19.1 | 34.9 | 30.2 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 37 |
| | 3/8 | KQ2Z06-03□S | 14 | 10.4 | 20.6 | 21.5 | 19.5 | 35.3 | 30.2 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 44.6 |
| ø8 | 1/8 | KQ2Z08-01□S | 12 | 13.2 | 17.6 | 21.2 | 15.1 | 27.6 | 24.5 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 24.3 |
| | 1/4 | KQ2Z08-02□S | 12 | 13.2 | 17.6 | 21.2 | 18.5 | 31 | 26.3 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 30.8 |
| | 3/8 | KQ2Z08-03□S | 14 | 13.2 | 20.6 | 22.3 | 19.5 | 35.3 | 30.2 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 46.3 |
| ø10 | 1/4 | KQ2Z10-02□S | 14 | 15.9 | 21.6 | 23.6 | 19.9 | 34.9 | 30.2 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 41.7 |
| | 3/8 | KQ2Z10-03□S | 14 | 15.9 | 21.6 | 23.6 | 20.3 | 35.3 | 30.2 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 49.3 |
| ø12 | 3/8 | KQ2Z12-03□S | 17 | 18.5 | 24.1 | 26.9 | 21.2 | 37.6 | 32.5 | 17 | 18.5 | 44.6 | 35.3 | 9 | 63.4 |
| | 1/2 | KQ2Z12-04□S | 17 | 18.5 | 24.1 | 26.9 | 24.4 | 40.8 | 34.4 | 17 | 18.5 | 44.6 | 35.3 | 9 | 82 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.

*2 Reference dimensions after installation of R thread



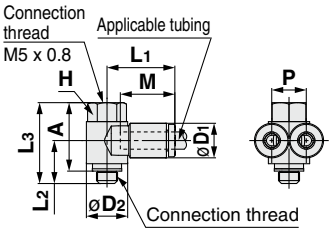

### Branch Universal Female Elbow: KQ2ZF (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2ZF04-M5□ | 8 | 8.2 | 9.8 | 16.5 | 10.2 | 19.2 | 16.2 | 13.3 | 8.2 | 3.4 | 3.4 | 2.5 | 6.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.




### Branch Universal Female Elbow: KQ2ZF (Sealant)

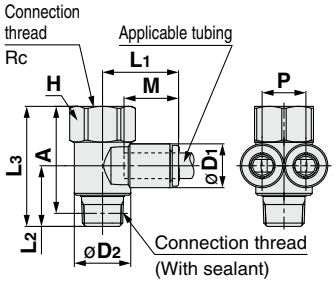


| Applicable tubing O.D. [mm] | Connection thread R, Rc | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZF04-01□S | 14 | 8.2 | 13.4 | 18.5 | 14.4 | 28.5 | 25.4 | 13.3 | 8.2 | 4.7 | 4.7 | 3 | 18.1 |
| ø6 | 1/8 | KQ2ZF06-01□S | 14 | 10.4 | 13.4 | 18.4 | 14.4 | 28.5 | 25.4 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 18.7 |
| | 1/4 | KQ2ZF06-02□S | 19 | 10.4 | 20.6 | 21.5 | 21.2 | 40.3 | 35.6 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 45.3 |
| ø8 | 1/8 | KQ2ZF08-01□S | 17 | 13.2 | 17.6 | 21.2 | 15.5 | 30 | 26.9 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 29.3 |
| | 1/4 | KQ2ZF08-02□S | 19 | 13.2 | 20.6 | 22.3 | 21.2 | 40.3 | 35.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 47 |
| ø10 | 1/4 | KQ2ZF10-02□S | 19 | 15.9 | 21.6 | 23.6 | 20.4 | 40.3 | 35.6 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 49.9 |
| | 3/8 | KQ2ZF10-03□S | 22 | 15.9 | 25.2 | 25.5 | 23.2 | 44 | 38.9 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 68.4 |
| ø12 | 3/8 | KQ2ZF12-03□S | 22 | 18.5 | 24.1 | 26.9 | 22.7 | 44 | 38.9 | 17 | 18.5 | 44.6 | 35.3 | 9 | 71 |
| | 1/2 | KQ2ZF12-04□S | 24 | 18.5 | 27 | 29.9 | 24.4 | 48.9 | 42.5 | 17 | 18.5 | 44.6 | 35.3 | 9 | 100.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.

*2 Reference dimensions after installation of R thread



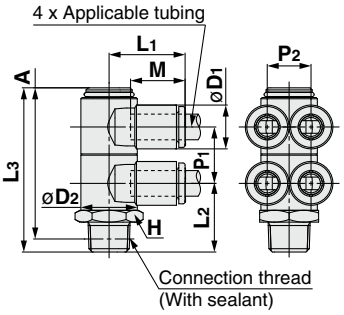
## Dimensions

### Double Branch Universal Male Elbow: KQ2ZD (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | P1 | P2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZD04-01□S | 14 | 8.2 | 13.4 | 18.5 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 21.3 |
| | 1/4 | KQ2ZD04-02□S | 14 | 8.2 | 13.4 | 18.5 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 29 |
| | 3/8 | KQ2ZD04-03□S | 17 | 8.2 | 13.4 | 18.5 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 40.9 |
| ø6 | 1/8 | KQ2ZD06-01□S | 14 | 10.4 | 13.4 | 18.4 | 16.3 | 39 | 35.9 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 22.5 |
| | 1/4 | KQ2ZD06-02□S | 14 | 10.4 | 13.4 | 18.4 | 20.7 | 43.4 | 38.7 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 30.2 |
| | 3/8 | KQ2ZD06-03□S | 17 | 10.4 | 13.4 | 18.4 | 22.1 | 44.8 | 39.7 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 42.1 |
| ø8 | 1/8 | KQ2ZD08-01□S | 19 | 13.2 | 17.6 | 21.2 | 19 | 45.8 | 42.7 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 48.7 |
| | 1/4 | KQ2ZD08-02□S | 19 | 13.2 | 17.6 | 21.2 | 22.4 | 49.2 | 44.5 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 48 |
| | 3/8 | KQ2ZD08-03□S | 19 | 13.2 | 17.6 | 21.2 | 23 | 49.8 | 44.7 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 55.9 |
| | 1/2 | KQ2ZD08-04□S | 22 | 13.2 | 17.6 | 21.2 | 27.2 | 54 | 47.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 82.1 |
| ø10 | 1/4 | KQ2ZD10-02□S | 21 | 15.9 | 20.6 | 23.6 | 24.3 | 56.2 | 51.5 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 69 |
| | 3/8 | KQ2ZD10-03□S | 21 | 15.9 | 20.6 | 23.6 | 24.7 | 56.6 | 51.5 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 71 |
| | 1/2 | KQ2ZD10-04□S | 22 | 15.9 | 20.6 | 23.6 | 28.7 | 60 | 53.6 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 92.9 |
| ø12 | 1/4 | KQ2ZD12-02□S | 26 | 18.5 | 25.2 | 26.8 | 26.5 | 62.4 | 57.7 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 115.6 |
| | 3/8 | KQ2ZD12-03□S | 26 | 18.5 | 25.2 | 26.8 | 26.9 | 62.8 | 57.7 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 110.7 |
| | 1/2 | KQ2ZD12-04□S | 26 | 18.5 | 25.2 | 26.8 | 30.1 | 66 | 59.6 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 124.7 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of R thread

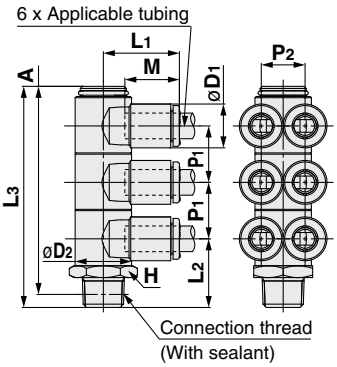



### Triple Branch Universal Male Elbow: KQ2ZT (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | P1 | P2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZT04-01□S | 14 | 8.2 | 13.4 | 18.5 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 27.7 |
| | 1/4 | KQ2ZT04-02□S | 14 | 8.2 | 13.4 | 18.5 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 35.3 |
| | 3/8 | KQ2ZT04-03□S | 17 | 8.2 | 13.4 | 18.5 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 47.2 |
| ø6 | 1/8 | KQ2ZT06-01□S | 14 | 10.4 | 13.4 | 18.4 | 16.3 | 52.5 | 49.4 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 29.5 |
| | 1/4 | KQ2ZT06-02□S | 14 | 10.4 | 13.4 | 18.4 | 20.7 | 56.9 | 52.2 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 37.2 |
| | 3/8 | KQ2ZT06-03□S | 17 | 10.4 | 13.4 | 18.4 | 22.1 | 58.3 | 53.2 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 49.1 |
| ø8 | 1/8 | KQ2ZT08-01□S | 19 | 13.2 | 17.6 | 21.2 | 19 | 61.8 | 58.7 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 65.1 |
| | 1/4 | KQ2ZT08-02□S | 19 | 13.2 | 17.6 | 21.2 | 22.4 | 65.2 | 60.5 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 62.3 |
| | 3/8 | KQ2ZT08-03□S | 19 | 13.2 | 17.6 | 21.2 | 23 | 65.8 | 60.7 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 70.4 |
| | 1/2 | KQ2ZT08-04□S | 22 | 13.2 | 17.6 | 21.2 | 27.2 | 70 | 63.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 97 |
| ø10 | 1/4 | KQ2ZT10-02□S | 21 | 15.9 | 20.6 | 23.6 | 24.3 | 75.5 | 70.8 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 90.9 |
| | 3/8 | KQ2ZT10-03□S | 21 | 15.9 | 20.6 | 23.6 | 24.7 | 75.9 | 70.8 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 90.7 |
| | 1/2 | KQ2ZT10-04□S | 22 | 15.9 | 20.6 | 23.6 | 28.7 | 79.9 | 73.5 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 112.7 |
| ø12 | 1/4 | KQ2ZT12-02□S | 26 | 18.5 | 25.2 | 26.8 | 26.5 | 84.1 | 79.4 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 152.2 |
| | 3/8 | KQ2ZT12-03□S | 26 | 18.5 | 25.2 | 26.8 | 26.9 | 84.5 | 79.4 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 142.6 |
| | 1/2 | KQ2ZT12-04□S | 26 | 18.5 | 25.2 | 26.8 | 30.1 | 87.7 | 81.3 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 155.1 |

□: A (Brass), N (Brass + Electroless nickel plating)
∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of R thread



## Dimensions

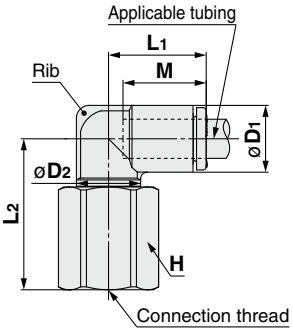
### Female Elbow: KQ2LF



| Applicable tubing O.D. [mm] | Connection thread M, Rc | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | M | Effective area [mm2] Nylon | Effective area [mm2] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2LF04-M5□ | 8 | 8.2 | 7 | 15.4 | 15.3 | 13.3 | 3.5 | 3.5 | 2.5 | 4.7 | ● |
| | M6 x 1.0 | KQ2LF04-M6□ | 8 | 8.2 | 7 | 15.4 | 16.1 | 13.3 | 3.5 | 3.5 | 2.5 | 4.6 | ● |
| | 1/8 | KQ2LF04-01□ | 14 | 8.2 | 10 | 14.8 | 22.4 | 13.3 | 4.2 | 4.2 | 3 | 17.6 | ● |
| | 1/4 | KQ2LF04-02□ | 17 | 8.2 | 10 | 14.8 | 26.9 | 13.3 | 4.2 | 4.2 | 3 | 29.6 | ● |
| ø6 | M5 x 0.8 | KQ2LF06-M5□ | 8 | 10.4 | 7 | 14.5 | 17 | 13.3 | 3.5 | 3.5 | 2.5 | 4.8 | ● |
| | M6 x 1.0 | KQ2LF06-M6□ | 8 | 10.4 | 7 | 14.5 | 17.8 | 13.3 | 3.5 | 3.5 | 2.5 | 4.7 | ● |
| | 1/8 | KQ2LF06-01□ | 14 | 10.4 | 10 | 15.5 | 23.5 | 13.3 | 11.4 | 9 | 4.5 | 18 | — |
| | 1/4 | KQ2LF06-02□ | 17 | 10.4 | 10 | 15.5 | 28 | 13.3 | 11.4 | 9 | 4.5 | 30.1 | — |
| | 3/8 | KQ2LF06-03□ | 19 | 10.4 | 10 | 15.5 | 28.5 | 13.3 | 11.4 | 9 | 4.5 | 34 | — |
| ø8 | 1/8 | KQ2LF08-01□ | 14 | 13.2 | 10 | 16.4 | 24.9 | 14.2 | 11.4 | 11.4 | 4.5 | 18.8 | ● |
| | | KQ2LF08-01□Q ∗2 | 14 | 13.2 | 12 | 17.2 | 23 | 14.2 | 21.6 | 14.9 | 6 | 14.6 | ● |
| | 1/4 | KQ2LF08-02□ | 17 | 13.2 | 12 | 17.2 | 28.8 | 14.2 | 21.6 | 14.9 | 6 | 28.7 | ● |
| | 3/8 | KQ2LF08-03□ | 19 | 13.2 | 12 | 17.2 | 29.3 | 14.2 | 21.6 | 14.9 | 6 | 32.3 | ● |
| ø10 | 1/4 | KQ2LF10-02□ | 17 | 15.9 | 17 | 19.3 | 27.4 | 15.6 | 21.6 | 14.9 | 7.5 | 26.4 | ● |
| | 3/8 | KQ2LF10-03□ | 19 | 15.9 | 17 | 19.3 | 33.5 | 15.6 | 35.2 | 25 | 7.5 | 31 | ● |
| | 1/2 | KQ2LF10-04□ | 24 | 15.9 | 17 | 19.3 | 36.5 | 15.6 | 35.2 | 25 | 7.5 | 57.6 | ● |
| ø12 | 1/4 | KQ2LF12-02□ | 17 | 18.5 | 17 | 21.5 | 28.7 | 17 | 50.2 | 39.7 | 9 | 28.2 | ● |
| | 3/8 | KQ2LF12-03□ | 19 | 18.5 | 17 | 21.5 | 34.8 | 17 | 50.2 | 39.7 | 9 | 32.9 | ● |
| | 1/2 | KQ2LF12-04□ | 24 | 18.5 | 17 | 21.5 | 37.8 | 17 | 50.2 | 39.7 | 9 | 59.5 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.
∗2 For details, refer to page 131.

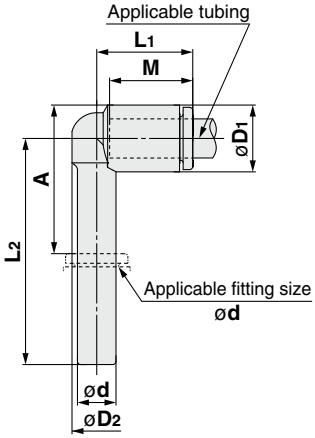



### Extended Plug-in Elbow: KQ2W



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm2] Nylon | Effective area [mm2] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø3.2 | KQ2W23-99A | 7.1 | 6.4 | 14.4 | 30.5 | 20.8 | 13.3 | 3 | 2.5 | 2.5 | 1 |
| ø4 | ø4 | KQ2W04-99A | 8.2 | 7.2 | 14.5 | 31.8 | 22.6 | 13.3 | 4.2 | 4.2 | 3 | 1.3 |
| ø6 | ø6 | KQ2W06-99A | 10.4 | 8 | 15.3 | 35.2 | 27.1 | 13.3 | 9 | 9 | 4 | 2 |
| ø8 | ø8 | KQ2W08-99A | 13.2 | 10 | 17.2 | 41.9 | 34.3 | 14.2 | 21.6 | 14.9 | 6 | 3.5 |
| ø10 | ø10 | KQ2W10-99A | 15.9 | 12 | 19.3 | 46.6 | 38.9 | 15.6 | 35.2 | 25 | 7.5 | 5.5 |
| ø12 | ø12 | KQ2W12-99A | 18.5 | 14 | 21.5 | 52 | 44.2 | 17 | 50.2 | 39.7 | 9 | 8.4 |

∗1 øD1 is maximum diameter.



## Dimensions

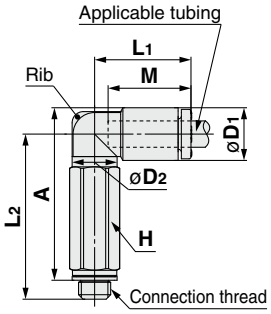
### Extended Male Elbow: KQ2W (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | KQ2W02-M3G | 5.5 | 5.8 | 5.5 | 12.6 | 18.8 | 19.1 | 11.9 | — | 0.8 | 1.2 | 2.6 | ● |
| | M5 x 0.8 | KQ2W02-M5□ | 7 | 5.8 | 5.5 | 12.6 | 19.3 | 19.2 | 11.9 | — | 0.8 | 1.2 | 4.6 | ● |
| ø3.2 | M3 x 0.5 | KQ2W23-M3G | 7 | 7.1 | 7 | 15.3 | 22.5 | 23.4 | 13.3 | 0.8 | 0.8 | 1.2 | 4.8 | ● |
| | M5 x 0.8 | KQ2W23-M5□ | 7 | 7.1 | 7 | 15.3 | 25.2 | 25.7 | 13.3 | 2.8 | 2.4 | 2.5 | 5.8 | ● |
| ø4 | M3 x 0.5 | KQ2W04-M3G | 7 | 8.2 | 7 | 15.4 | 23 | 24.5 | 13.3 | 0.8 | 0.8 | 1.2 | 4.9 | ● |
| | M5 x 0.8 | KQ2W04-M5□ | 7 | 8.2 | 7 | 15.4 | 25.7 | 26.8 | 13.3 | 3 | 3 | 2.5 | 5.8 | ● |
| ø6 | M5 x 0.8 | KQ2W06-M5□ | 7 | 10.4 | 7 | 14.5 | 27.4 | 29.6 | 13.3 | 3 | 3 | 2.5 | 5.9 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



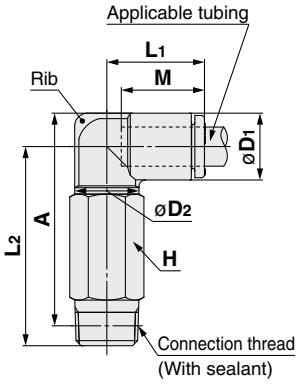

### Extended Male Elbow: KQ2W (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2W23-01□S | 10 | 7.1 | 10 | 14.5 | 30.3 | 30.8 | 13.3 | 2.8 | 2.4 | 2.5 | 10.8 | — |
| | 1/4 | KQ2W23-02□S | 14 | 7.1 | 10 | 14.5 | 32.8 | 31.7 | 13.3 | 2.8 | 2.4 | 2.5 | 27.3 | — |
| ø4 | 1/8 | KQ2W04-01□S | 10 | 8.2 | 10 | 14.8 | 29.9 | 30.9 | 13.3 | 4 | 4 | 3 | 11 | ● |
| | 1/4 | KQ2W04-02□S | 14 | 8.2 | 10 | 14.8 | 33.3 | 32.7 | 13.3 | 4 | 4 | 3 | 27.5 | ● |
| ø6 | 1/8 | KQ2W06-01□S | 10 | 10.4 | 10 | 15.5 | 31 | 33.1 | 13.3 | 10.9 | 8.6 | 4.5 | 11.4 | — |
| | 1/4 | KQ2W06-02□S | 14 | 10.4 | 10 | 15.5 | 34.4 | 34.9 | 13.3 | 10.9 | 8.6 | 4.5 | 28 | — |
| | 3/8 | KQ2W06-03□S | 17 | 10.4 | 10 | 15.5 | 35.7 | 35.8 | 13.3 | 10.9 | 8.6 | 4.5 | 47.4 | — |
| ø8 | 1/8 | KQ2W08-01□S | 10 | 13.2 | 10 | 16.4 | 32.4 | 35.9 | 14.2 | 10.9 | 10.9 | 4.5 | 12.2 | ● |
| | | KQ2W08-01□QS *3 | 12 | 13.2 | 12 | 17.2 | 42.4 | 45.9 | 14.2 | 20.5 | 14.2 | 6 | 23.7 | ● |
| | 1/4 | KQ2W08-02□S | 14 | 13.2 | 12 | 17.2 | 39.1 | 41 | 14.2 | 20.5 | 14.2 | 6 | 40 | ● |
| | 3/8 | KQ2W08-03□S | 17 | 13.2 | 12 | 17.2 | 39.2 | 40.7 | 14.2 | 20.5 | 14.2 | 6 | 47 | ● |
| ø10 | 1/4 | KQ2W10-02□S | 17 | 15.9 | 17 | 19.3 | 52.9 | 56.2 | 15.6 | 33.5 | 23.8 | 7.5 | 59 | ● |
| | 3/8 | KQ2W10-03□S | 17 | 15.9 | 17 | 19.3 | 48.5 | 51.4 | 15.6 | 33.5 | 23.8 | 7.5 | 51.3 | ● |
| | 1/2 | KQ2W10-04□S | 22 | 15.9 | 17 | 19.3 | 52.5 | 54.1 | 15.6 | 33.5 | 23.8 | 7.5 | 92 | ● |
| ø12 | 1/4 | KQ2W12-02□S | 17 | 18.5 | 17 | 21.5 | 54.2 | 58.8 | 17 | 47.7 | 37.7 | 9 | 60.7 | ● |
| | 3/8 | KQ2W12-03□S | 17 | 18.5 | 17 | 21.5 | 49.8 | 54 | 17 | 47.7 | 37.7 | 9 | 53.2 | ● |
| | 1/2 | KQ2W12-04□S | 22 | 18.5 | 17 | 21.5 | 53.8 | 56.7 | 17 | 47.7 | 37.7 | 9 | 93.9 | ● |
| ø16 | 1/4 | KQ2W16-02□S | 17 | 23.8 | 17 | 25.1 | 56.9 | 64.1 | 20.6 | 47.7 | 47.7 | 9 | 67.4 | ● |
| | 3/8 | KQ2W16-03□S | 22 | 23.8 | 21 | 27.1 | 59.7 | 66.5 | 20.6 | 71 | 58.9 | 11 | 105.5 | — |
| | 1/2 | KQ2W16-04□S | 22 | 23.8 | 21 | 27.1 | 58.4 | 63.9 | 20.6 | 100 | 58.9 | 13 | 101.7 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 131.



## Dimensions

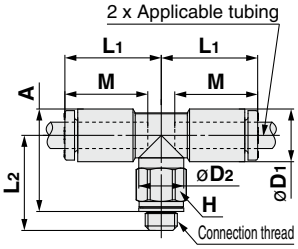
### Male Branch Tee: KQ2T (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | KQ2T02-M3G | 5.5 | 5.8 | 5.5 | 12.6 | 12.5 | 12.8 | 11.9 | — | 0.9 | 1.2 | 1.9 |
| | M5 x 0.8 | KQ2T02-M5□ | 7 | 5.8 | 5.5 | 12.6 | 13 | 12.9 | 11.9 | — | 0.9 | 1.4 | 3 |
| ø3.2 | M3 x 0.5 | KQ2T23-M3G | 7 | 7.1 | 7 | 15.3 | 13.8 | 14.7 | 13.3 | 0.9 | 0.9 | 1.2 | 3.1 |
| | M5 x 0.8 | KQ2T23-M5□ | 7 | 7.1 | 7 | 15.3 | 14.3 | 14.8 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø4 | M3 x 0.5 | KQ2T04-M3G | 7 | 8.2 | 7 | 15.4 | 14.3 | 15.8 | 13.3 | 0.9 | 0.9 | 1.2 | 3.4 |
| | M5 x 0.8 | KQ2T04-M5□ | 7 | 8.2 | 7 | 15.4 | 14.8 | 15.9 | 13.3 | 4.5 | 4.5 | 2.5 | 3.9 |
| | M6 x 1.0 | KQ2T04-M6□ | 8 | 8.2 | 7 | 15.4 | 15.8 | 15.9 | 13.3 | 4.5 | 4.5 | 2.5 | 4.9 |
| ø6 | M5 x 0.8 | KQ2T06-M5□ | 7 | 10.4 | 7 | 14.5 | 16.5 | 18.7 | 13.3 | 4.5 | 4.5 | 2.5 | 4.4 |
| | M6 x 1.0 | KQ2T06-M6□ | 8 | 10.4 | 7 | 14.5 | 17.5 | 18.7 | 13.3 | 4.5 | 4.5 | 2.5 | 5.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.




### Male Branch Tee: KQ2T (Sealant)



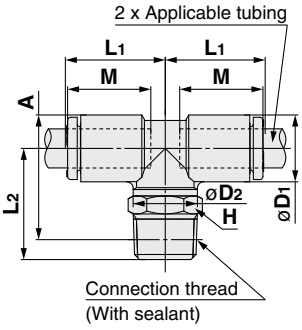
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2T23-01□S | 10 | 7.1 | 10 | 14.5 | 16.6 | 17.1 | 13.3 | 3.4 | 2.9 | 2.5 | 5.2 |
| | 1/4 | KQ2T23-02□S | 14 | 7.1 | 10 | 14.5 | 21.1 | 20 | 13.3 | 3.4 | 2.9 | 2.5 | 14.7 |
| ø4 | 1/8 | KQ2T04-01□S | 10 | 8.2 | 10 | 14.8 | 16.2 | 17.2 | 13.3 | 6 | 4.1 | 3 | 5.5 |
| | 1/4 | KQ2T04-02□S | 14 | 8.2 | 10 | 14.8 | 21.7 | 21.1 | 13.3 | 6 | 4.1 | 3 | 15 |
| ø6 | 1/8 | KQ2T06-01□S | 10 | 10.4 | 10 | 15.5 | 17.3 | 19.4 | 13.3 | 13.9 | 11 | 4.5 | 6.1 |
| | 1/4 | KQ2T06-02□S | 14 | 10.4 | 10 | 15.5 | 22.8 | 23.3 | 13.3 | 13.9 | 11 | 4.5 | 15.6 |
| | 3/8 | KQ2T06-03□S | 17 | 10.4 | 10 | 15.5 | 24.1 | 24.2 | 13.3 | 13.9 | 11 | 4.5 | 27.4 |
| ø8 | 1/8 | KQ2T08-01□S | 10 | 13.2 | 10 | 16.4 | 18.7 | 22.2 | 14.2 | 14 | 14 | 4.5 | 7.9 |
| | | KQ2T08-01□QS ∗3 | 12 | 13.2 | 12 | 17.2 | 23.5 | 27 | 14.2 | 26.3 | 18.2 | 6 | 11.0 |
| | 1/4 | KQ2T08-02□S | 14 | 13.2 | 12 | 17.2 | 25.4 | 27.3 | 14.2 | 26.3 | 18.2 | 6 | 19.4 |
| | 3/8 | KQ2T08-03□S | 17 | 13.2 | 12 | 17.2 | 25.5 | 27 | 14.2 | 26.3 | 18.2 | 6 | 26.5 |
| ø10 | 1/8 | KQ2T10-01□S | 12 | 15.9 | 12 | 18.6 | 23.5 | 28.4 | 15.6 | 21.6 | 14.9 | 6 | 13.9 |
| | 1/4 | KQ2T10-02□S | 17 | 15.9 | 17 | 19.3 | 28.6 | 31.9 | 15.6 | 35.2 | 25 | 7.5 | 24.3 |
| | 3/8 | KQ2T10-03□S | 17 | 15.9 | 17 | 19.3 | 29.5 | 32.4 | 15.6 | 35.2 | 25 | 7.5 | 24.8 |
| | 1/2 | KQ2T10-04□S | 22 | 15.9 | 17 | 19.3 | 33.5 | 35.1 | 15.6 | 35.2 | 25 | 7.5 | 47.3 |
| ø12 | 1/4 | KQ2T12-02□S | 17 | 18.5 | 17 | 21.5 | 29.9 | 34.5 | 17 | 57.2 | 45.2 | 9 | 27.3 |
| | 3/8 | KQ2T12-03□S | 17 | 18.5 | 17 | 21.5 | 30.8 | 35 | 17 | 57.2 | 45.2 | 9 | 28 |
| | 1/2 | KQ2T12-04□S | 22 | 18.5 | 17 | 21.5 | 34.8 | 37.7 | 17 | 57.2 | 45.2 | 9 | 50.4 |
| ø16 | 1/4 | KQ2T16-02□S | 17 | 23.8 | 17 | 25.1 | 32.6 | 39.8 | 20.6 | 57.2 | 57.2 | 9 | 35.5 |
| | 3/8 | KQ2T16-03□S | 22 | 23.8 | 21 | 27.1 | 35.4 | 42.2 | 20.6 | 71 | 58.9 | 11 | 47.7 |
| | 1/2 | KQ2T16-04□S | 22 | 23.8 | 21 | 27.1 | 34.1 | 39.6 | 20.6 | 100 | 58.9 | 13 | 51.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.

∗2 Reference dimensions after installation of R thread

∗3 For details, refer to page 131.



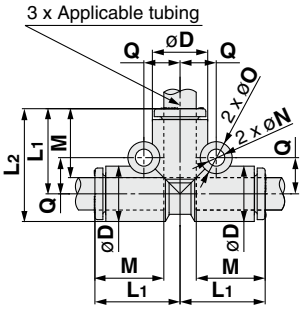
## Dimensions

### Union Tee: KQ2T



| Applicable tubing O.D. [mm] | Model | *1 øD | L1 | L2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | KQ2T02-00A | 5.8 | 12.9 | 15.8 | 11.9 | 4.5 | 6 | 3.2 | — | 0.9 | 1.4 | 1.4 |
| ø3.2 | KQ2T23-00A | 7.1 | 14.9 | 18.5 | 13.3 | 5.4 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 2.3 |
| ø4 | KQ2T04-00A | 8.2 | 15.3 | 19.4 | 13.3 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 2.8 |
| ø6 | KQ2T06-00A | 10.4 | 16.3 | 21.5 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 3.8 |
| ø8 | KQ2T08-00A | 13.2 | 18.2 | 24.8 | 14.2 | 8.4 | 8 | 4.2 | 25.6 | 17.7 | 6 | 7 |
| ø10 | KQ2T10-00A | 15.9 | 20.6 | 28.6 | 15.6 | 9.6 | 8 | 4.2 | 40 | 28.4 | 7.5 | 11 |
| ø12 | KQ2T12-00A | 18.5 | 23 | 32.3 | 17 | 10.7 | 8 | 4.2 | 57.4 | 45.4 | 9 | 15.7 |
| ø16 | KQ2T16-00A | 23.8 | 28.6 | 40.5 | 20.6 | 13.4 | 8 | 4.2 | 100 | 58.9 | 13 | 29.8 |

*1 øD is maximum diameter.

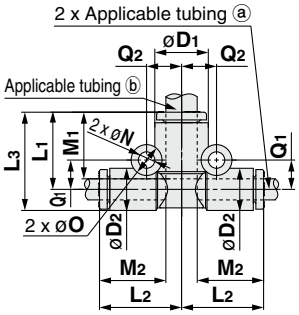



### Different Diameter Tee: KQ2T



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | *1 øD1 | øD2 | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | ø4 | KQ2T23-04A | 8.2 | 7.1 | 14.9 | 15.3 | 18.5 | 13.3 | 13.3 | 5.4 | 5.8 | 6 | 3.2 | 3.8 | 3.5 | 2.5 | 2.6 |
| ø4 | ø6 | KQ2T04-06A | 10.4 | 8.2 | 15.3 | 16.3 | 19.4 | 13.3 | 13.3 | 5.7 | 6.8 | 6 | 3.2 | 7.1 | 6.6 | 3 | 3.3 |
| ø6 | ø8 | KQ2T06-08A | 13.2 | 10.4 | 17.2 | 17.3 | 22.4 | 14.2 | 13.3 | 7.3 | 8.4 | 8 | 4.2 | 16.4 | 16.4 | 4.5 | 5.3 |
| ø8 | ø10 | KQ2T08-10A | 15.9 | 13.2 | 19.6 | 19.2 | 26.2 | 15.6 | 14.2 | 8.4 | 9.6 | 8 | 4.2 | 36 | 27.2 | 6 | 8.3 |
| ø10 | ø12 | KQ2T10-12A | 18.5 | 15.9 | 22 | 21.6 | 30 | 17 | 15.6 | 9.6 | 10.7 | 8 | 4.2 | 56 | 44.5 | 7.5 | 12.2 |
| ø12 | ø16 | KQ2T12-16A | 23.8 | 18.5 | 26.6 | 25 | 35.9 | 20.6 | 17 | 10.7 | 13.4 | 8 | 4.2 | 108.5 | 74 | 9 | 20.1 |

*1 øD1 is maximum diameter.

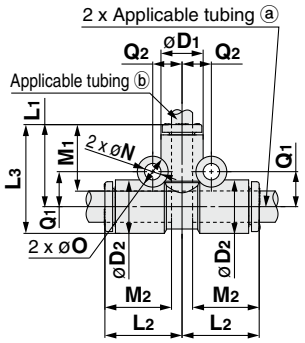



### Different Diameter Tee: KQ2T



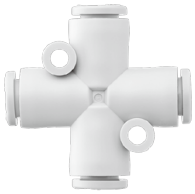
| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | *1 øD1 | øD2 | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø6 | ø4 | KQ2T06-04A | 8.2 | 10.4 | 16.3 | 15.3 | 21.5 | 13.3 | 13.3 | 6.8 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |
| ø8 | ø6 | KQ2T08-06A | 10.4 | 13.2 | 17.3 | 17.2 | 23.9 | 13.3 | 14.2 | 8.4 | 7.3 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 6 |
| ø10 | ø8 | KQ2T10-08A | 13.2 | 15.9 | 19.2 | 19.6 | 27.2 | 14.2 | 15.6 | 9.6 | 8.4 | 8 | 4.2 | 25.6 | 17.7 | 6 | 9.5 |
| ø12 | ø10 | KQ2T12-10A | 15.9 | 18.5 | 21.6 | 22 | 30.9 | 15.6 | 17 | 10.7 | 9.6 | 8 | 4.2 | 40 | 28.4 | 7.5 | 13.4 |

*1 øD1 is maximum diameter.



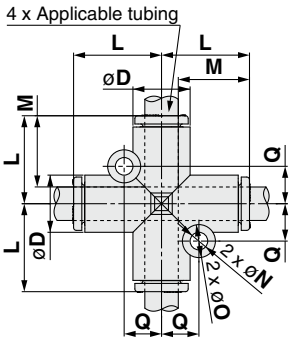
## Dimensions

### Cross: KQ2TW

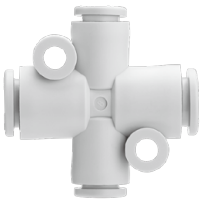


| Applicable tubing O.D. [mm] | Model | *1 øD | L | Q | M | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Nylon | Urethane | | |
| ø4 | KQ2TW04-00A | 8.2 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |
| ø6 | KQ2TW06-00A | 10.4 | 16.3 | 6.8 | 13.3 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 4.9 |
| ø8 | KQ2TW08-00A | 13.2 | 18.2 | 8.4 | 14.2 | 8 | 4.2 | 25.6 | 17.7 | 6 | 8.5 |
| ø10 | KQ2TW10-00A | 15.9 | 20.6 | 9.6 | 15.6 | 8 | 4.2 | 40 | 28.4 | 7.5 | 12.7 |
| ø12 | KQ2TW12-00A | 18.5 | 23 | 10.7 | 17 | 8 | 4.2 | 57.4 | 45.4 | 9 | 18.4 |

∗1 øD is maximum diameter.

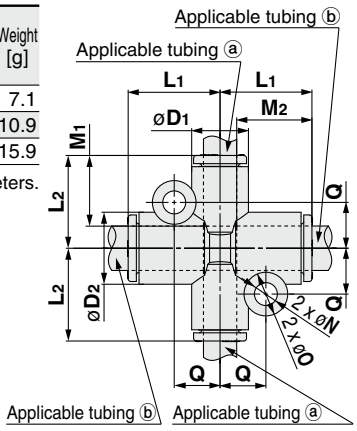



### Different Diameter Cross: KQ2TX



| Applicable tubing O.D. [mm] | | Model | *1 øD1 | *1 øD2 | L1 | L2 | Q | M1 | M2 | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⓐ | ⓑ | | | | | | | | | | | Nylon | Urethane | | |
| ø6 | ø8 | KQ2TX06-08A | 10.4 | 13.2 | 17.2 | 17.3 | 8.4 | 13.3 | 14.2 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 7.1 |
| ø8 | ø10 | KQ2TX08-10A | 13.2 | 15.9 | 19.6 | 19.2 | 9.6 | 14.2 | 15.6 | 8 | 4.2 | 25.6 | 17.7 | 6 | 10.9 |
| ø10 | ø12 | KQ2TX10-12A | 15.9 | 18.5 | 22 | 21.6 | 10.7 | 15.6 | 17 | 8 | 4.2 | 40 | 28.4 | 7.5 | 15.9 |

∗1 øD1, øD2 are maximum diameters.

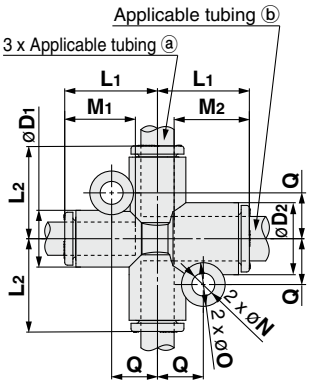



### Different Diameter Cross: KQ2TY



| Applicable tubing O.D. [mm] | | Model | *1 øD1 | *1 øD2 | L1 | L2 | Q | M1 | M2 | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⓐ | ⓑ | | | | | | | | | | | Nylon | Urethane | | |
| ø6 | ø8 | KQ2TY06-08A | 10.4 | 13.2 | 17.3 | 17.2 | 8.4 | 13.3 | 14.2 | 8 | 4.2 | 13.4 | 10.6 | 4.5 | 6.5 |
| ø8 | ø10 | KQ2TY08-10A | 13.2 | 15.9 | 19.2 | 19.6 | 9.6 | 14.2 | 15.6 | 8 | 4.2 | 25.6 | 17.7 | 6 | 10.2 |
| ø10 | ø12 | KQ2TY10-12A | 15.9 | 18.5 | 21.6 | 22 | 10.7 | 15.6 | 17 | 8 | 4.2 | 40 | 28.4 | 7.5 | 14.9 |

∗1 øD1, øD2 are maximum diameters.



## Dimensions

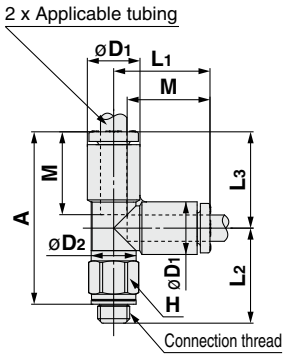
### Male Run Tee: KQ2Y (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø2 | M3 x 0.5 | KQ2Y02-M3G | 5.5 | 5.8 | 5.5 | 12.9 | 12.5 | 12.9 | 22.8 | 11.9 | — | 0.9 | 1.2 | 2 |
| | M5 x 0.8 | KQ2Y02-M5□ | 7 | 5.8 | 5.5 | 12.9 | 13 | 12.9 | 22.9 | 11.9 | — | 0.9 | 1.4 | 3.1 |
| ø3.2 | M3 x 0.5 | KQ2Y23-M3G | 7 | 7.1 | 7 | 15.3 | 13.8 | 15.3 | 26.5 | 13.3 | 0.9 | 0.9 | 1.2 | 3.1 |
| | M5 x 0.8 | KQ2Y23-M5□ | 7 | 7.1 | 7 | 15.3 | 14.3 | 15.3 | 26.6 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø4 | M3 x 0.5 | KQ2Y04-M3G | 7 | 8.2 | 7 | 15.4 | 14.3 | 15.4 | 27.1 | 13.3 | 0.9 | 0.9 | 1.2 | 3.4 |
| | M5 x 0.8 | KQ2Y04-M5□ | 7 | 8.2 | 7 | 15.4 | 14.8 | 15.4 | 27.2 | 13.3 | 4.5 | 4.5 | 2.5 | 3.9 |
| | M6 x 1.0 | KQ2Y04-M6□ | 8 | 8.2 | 7 | 15.4 | 15.8 | 15.4 | 27.2 | 13.3 | 4.5 | 4.5 | 2.5 | 4.9 |
| ø6 | M5 x 0.8 | KQ2Y06-M5□ | 7 | 10.4 | 7 | 16.3 | 16.5 | 16.3 | 29.8 | 13.3 | 4.5 | 4.5 | 2.5 | 4.6 |
| | M6 x 1.0 | KQ2Y06-M6□ | 8 | 10.4 | 7 | 16.3 | 17.5 | 16.3 | 29.8 | 13.3 | 4.5 | 4.5 | 2.5 | 5.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



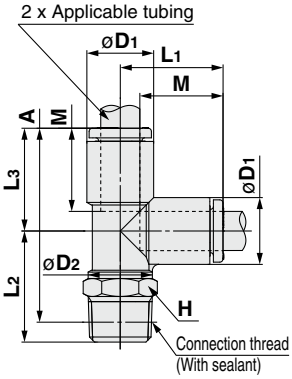

### Male Run Tee: KQ2Y (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2Y23-01□S | 10 | 7.1 | 10 | 14.9 | 16.6 | 14.9 | 28.5 | 13.3 | 3.4 | 2.9 | 2.5 | 5.3 |
| | 1/4 | KQ2Y23-02□S | 14 | 7.1 | 10 | 14.9 | 21.1 | 14.9 | 31.4 | 13.3 | 3.4 | 2.9 | 2.5 | 14.7 |
| ø4 | 1/8 | KQ2Y04-01□S | 10 | 8.2 | 10 | 15.3 | 16.2 | 15.3 | 28.4 | 13.3 | 6.4 | 4.4 | 3 | 5.6 |
| | 1/4 | KQ2Y04-02□S | 14 | 8.2 | 10 | 15.3 | 21.7 | 15.3 | 32.3 | 13.3 | 6.4 | 4.4 | 3 | 15 |
| ø6 | 1/8 | KQ2Y06-01□S | 10 | 10.4 | 10 | 16.3 | 17.3 | 16.3 | 30.5 | 13.3 | 13.4 | 10.6 | 4.5 | 6.2 |
| | 1/4 | KQ2Y06-02□S | 14 | 10.4 | 10 | 16.3 | 22.8 | 16.3 | 34.4 | 13.3 | 13.4 | 10.6 | 4.5 | 15.8 |
| | 3/8 | KQ2Y06-03□S | 17 | 10.4 | 10 | 16.3 | 24.1 | 16.3 | 35.3 | 13.3 | 13.4 | 10.6 | 4.5 | 27.5 |
| ø8 | 1/8 | KQ2Y08-01□S | 10 | 13.2 | 10 | 18.2 | 18.7 | 18.2 | 33.8 | 14.2 | 13.4 | 13.4 | 4.5 | 8 |
| | | KQ2Y08-01□QS ∗3 | 12 | 13.2 | 12 | 18.2 | 23.5 | 18.2 | 38.7 | 14.2 | 25.6 | 17.7 | 6 | 11.1 |
| | 1/4 | KQ2Y08-02□S | 14 | 13.2 | 12 | 18.2 | 25.4 | 18.2 | 38.9 | 14.2 | 25.6 | 17.7 | 6 | 19.5 |
| | 3/8 | KQ2Y08-03□S | 17 | 13.2 | 12 | 18.2 | 25.5 | 18.2 | 38.6 | 14.2 | 25.6 | 17.7 | 6 | 26.5 |
| ø10 | 1/8 | KQ2Y10-01□S | 12 | 15.9 | 12 | 20.6 | 23.5 | 20.6 | 41.1 | 15.6 | 40 | 28.4 | 6 | 14 |
| | 1/4 | KQ2Y10-02□S | 17 | 15.9 | 17 | 20.6 | 28.6 | 20.6 | 44.6 | 15.6 | 40 | 28.4 | 7.5 | 24.5 |
| | 3/8 | KQ2Y10-03□S | 17 | 15.9 | 17 | 20.6 | 29.5 | 20.6 | 45.1 | 15.6 | 40 | 28.4 | 7.5 | 25 |
| | 1/2 | KQ2Y10-04□S | 22 | 15.9 | 17 | 20.6 | 33.5 | 20.6 | 47.8 | 15.6 | 40 | 28.4 | 7.5 | 47.4 |
| ø12 | 1/4 | KQ2Y12-02□S | 17 | 18.5 | 17 | 23 | 29.9 | 23 | 48.3 | 17 | 57.4 | 45.4 | 9 | 27.6 |
| | 3/8 | KQ2Y12-03□S | 17 | 18.5 | 17 | 23 | 30.8 | 23 | 48.8 | 17 | 57.4 | 45.4 | 9 | 28.2 |
| | 1/2 | KQ2Y12-04□S | 22 | 18.5 | 17 | 23 | 34.8 | 23 | 51.5 | 17 | 57.4 | 45.4 | 9 | 50.7 |
| ø16 | 1/4 | KQ2Y16-02□S | 17 | 23.8 | 17 | 28.6 | 32.6 | 28.6 | 56.5 | 20.6 | 57.4 | 45.4 | 9 | 36 |
| | 3/8 | KQ2Y16-03□S | 22 | 23.8 | 21 | 28.6 | 35.4 | 28.6 | 58.9 | 20.6 | 81 | 60 | 11 | 48.3 |
| | 1/2 | KQ2Y16-04□S | 22 | 23.8 | 21 | 28.6 | 34.1 | 28.6 | 56.3 | 20.6 | 113 | 60 | 13 | 52 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of R thread
∗3 For details, refer to page 131.



## Dimensions

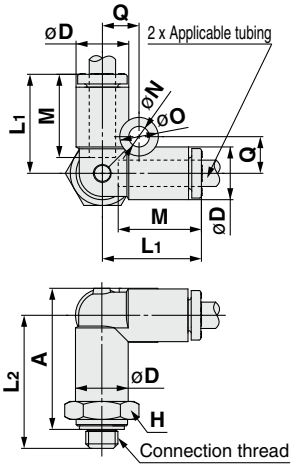
### Male Delta Union: KQ2D (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | ∗1 øD | L1 | L2 | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2D04-M5□ | 10 | 8.2 | 15.8 | 20.7 | 21.8 | 13.3 | 5.7 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 6.6 |
| | M6 x 1.0 | KQ2D04-M6□ | 10 | 8.2 | 15.8 | 21.7 | 21.8 | 13.3 | 5.7 | 6 | 3.2 | 4.3 | 4.3 | 3 | 6.4 |
| ø6 | M5 x 0.8 | KQ2D06-M5□ | 12 | 10.4 | 16.8 | 21.7 | 23.9 | 13.3 | 6.7 | 6 | 3.2 | 4.3 | 4.3 | 1.8 | 9.8 |
| | M6 x 1.0 | KQ2D06-M6□ | 12 | 10.4 | 16.8 | 22.7 | 23.9 | 13.3 | 6.7 | 6 | 3.2 | 4.3 | 4.3 | 3 | 9.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD is maximum diameter.







### Male Delta Union: KQ2D (Sealant)

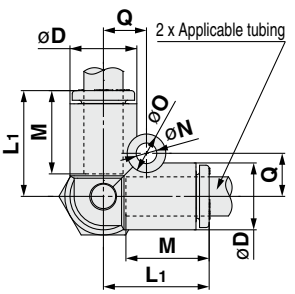


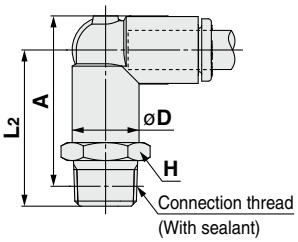
| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD | L1 | L2 | A∗2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2D04-01□S | 10 | 8.2 | 15.8 | 23.3 | 24.3 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 9.2 |
| | 1/4 | KQ2D04-02□S | 14 | 8.2 | 15.8 | 27.7 | 27.1 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 19 |
| ø6 | 1/8 | KQ2D06-01□S | 12 | 10.4 | 16.8 | 24.3 | 26.4 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 10.2 |
| | 1/4 | KQ2D06-02□S | 14 | 10.4 | 16.8 | 28.7 | 29.2 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 19.1 |
| | 3/8 | KQ2D06-03□S | 17 | 10.4 | 16.8 | 30.1 | 30.2 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 31 |
| ø8 | 1/8 | KQ2D08-01□S | 14 | 13.2 | 18.8 | 26.3 | 29.8 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 6 | 15.3 |
| | 1/4 | KQ2D08-02□S | 14 | 13.2 | 18.8 | 30.7 | 32.6 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 7.3 | 20.4 |
| | 3/8 | KQ2D08-03□S | 17 | 13.2 | 18.8 | 32.1 | 33.6 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 7.3 | 32.1 |
| ø10 | 1/4 | KQ2D10-02□S | 17 | 15.9 | 21.2 | 33.1 | 36.3 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9 | 24.9 |
| | 3/8 | KQ2D10-03□S | 17 | 15.9 | 21.2 | 34.5 | 37.3 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9.4 | 32.7 |
| | 1/2 | KQ2D10-04□S | 22 | 15.9 | 21.2 | 38.7 | 40.2 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9.4 | 60.6 |
| ø12 | 1/4 | KQ2D12-02□S | 19 | 18.5 | 23.6 | 35.5 | 40 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 9 | 35 |
| | 3/8 | KQ2D12-03□S | 19 | 18.5 | 23.6 | 36.9 | 41 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 11 | 38 |
| | 1/2 | KQ2D12-04□S | 22 | 18.5 | 23.6 | 41.1 | 43.9 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 11.6 | 60 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD is maximum diameter.

∗2 Reference dimensions after installation of R thread



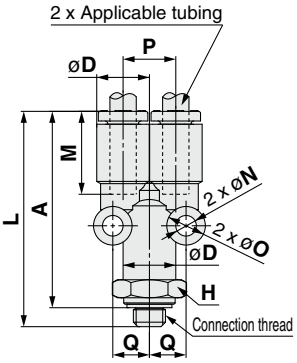
## Dimensions

### Branch "Y": KQ2U (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread M | Model | H (Width across flats) | *1 øD | L | A | M | P | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | M5 x 0.8 | KQ2U23-M5□ | 10 | 7.1 | 33.8 | 30.8 | 13.3 | 7.1 | 5.2 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 5.8 |
| ø4 | M5 x 0.8 | KQ2U04-M5□ | 10 | 8.2 | 33.9 | 30.9 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 6.7 |
| | M6 x 1.0 | KQ2U04-M6□ | 10 | 8.2 | 34.9 | 30.9 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 2.2 | 2.2 | 3 | 6.6 |
| ø6 | M5 x 0.8 | KQ2U06-M5□ | 12 | 10.4 | 35 | 32 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 10 |
| | M6 x 1.0 | KQ2U06-M6□ | 12 | 10.4 | 36 | 32 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 2.2 | 2.2 | 3 | 9.8 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD is maximum diameter.

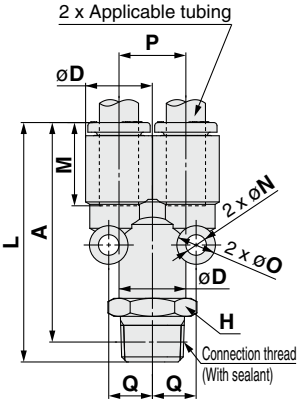



### Branch "Y": KQ2U (Sealant)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | *1 øD | L | A*2 | M | P | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2U23-01□S | 10 | 7.1 | 36.4 | 33.3 | 13.3 | 7.1 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 8.6 |
| | 1/4 | KQ2U23-02□S | 14 | 7.1 | 40.8 | 36.1 | 13.3 | 7.1 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 19 |
| ø4 | 1/8 | KQ2U04-01□S | 10 | 8.2 | 36.5 | 33.4 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 9.3 |
| | 1/4 | KQ2U04-02□S | 14 | 8.2 | 40.9 | 36.2 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 19.1 |
| ø6 | 1/8 | KQ2U06-01□S | 12 | 10.4 | 37.6 | 34.5 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 10.3 |
| | 1/4 | KQ2U06-02□S | 14 | 10.4 | 42 | 37.3 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 19.2 |
| | 3/8 | KQ2U06-03□S | 17 | 10.4 | 43.4 | 38.3 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 31.2 |
| ø8 | 1/8 | KQ2U08-01□S | 14 | 13.2 | 40.7 | 37.6 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 15.8 |
| | 1/4 | KQ2U08-02□S | 14 | 13.2 | 45.1 | 40.4 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 20.9 |
| | 3/8 | KQ2U08-03□S | 17 | 13.2 | 46.5 | 41.4 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 32.7 |
| ø10 | 1/4 | KQ2U10-02□S | 17 | 15.9 | 49 | 44.3 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9 | 25.6 |
| | 3/8 | KQ2U10-03□S | 17 | 15.9 | 50.4 | 45.3 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 33.4 |
| | 1/2 | KQ2U10-04□S | 22 | 15.9 | 54.6 | 48.2 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 61.3 |
| ø12 | 1/4 | KQ2U12-02□S | 19 | 18.5 | 53 | 48.3 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 9 | 36 |
| | 3/8 | KQ2U12-03□S | 19 | 18.5 | 54.4 | 49.3 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11 | 38.9 |
| | 1/2 | KQ2U12-04□S | 22 | 18.5 | 58.6 | 52.2 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11.6 | 61 |
| ø16 | 1/4 | KQ2U16-02□S | 24 | 23.8 | 62.4 | 57.7 | 20.6 | 23.8 | 14 | 8 | 4.2 | 57.4 | 45.4 | 9 | 67.6 |
| | 3/8 | KQ2U16-03□S | 24 | 23.8 | 63.8 | 58.7 | 20.6 | 23.8 | 14 | 8 | 4.2 | 81 | 60 | 11 | 71.5 |
| | 1/2 | KQ2U16-04□S | 24 | 23.8 | 68 | 61.6 | 20.6 | 23.8 | 14 | 8 | 4.2 | 113 | 60 | 13 | 82.6 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD is maximum diameter.
*2 Reference dimensions after installation of R thread

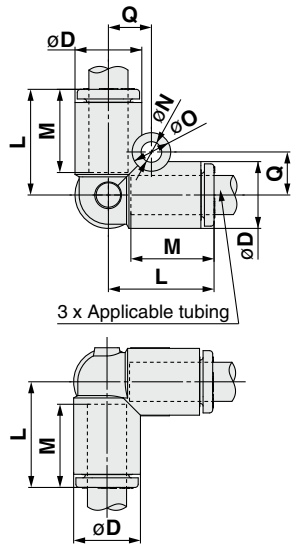



### Delta Union: KQ2D



| Applicable tubing O.D. [mm] | Model | *1 øD | L | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | KQ2D04-00A | 8.2 | 15.8 | 13.3 | 5.7 | 6 | 3.2 | 6 | 4.1 | 3 | 2.7 |
| ø6 | KQ2D06-00A | 10.4 | 16.8 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 4.5 | 3.8 |
| ø8 | KQ2D08-00A | 13.2 | 18.8 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 6 | 6.8 |
| ø10 | KQ2D10-00A | 15.9 | 21.2 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 7.5 | 10.3 |
| ø12 | KQ2D12-00A | 18.5 | 23.6 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 9 | 15.2 |

*1 øD is maximum diameter.



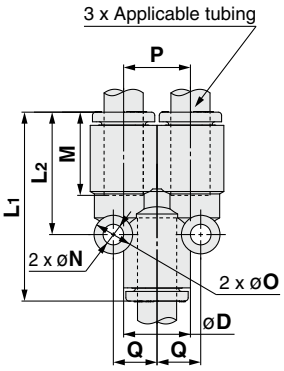
## Dimensions

### Union "Y": KQ2U



| Applicable tubing O.D. [mm] | Model | *1 øD | L1 | L2 | P | M | Q | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Nylon | Urethane | | |
| ø2 | KQ2U02-00A | 5.8 | 25.8 | 16.1 | 5.8 | 11.9 | 4.5 | 6 | 3.2 | — | 0.9 | 1.2 | 1.6 |
| ø3.2 | KQ2U23-00A | 7.1 | 28.9 | 18 | 7.1 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 2.4 |
| ø4 | KQ2U04-00A | 8.2 | 29 | 18.2 | 8.2 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3 | 2.9 |
| ø6 | KQ2U06-00A | 10.4 | 30.1 | 19.4 | 10.4 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 4.1 |
| ø8 | KQ2U08-00A | 13.2 | 33.2 | 22.3 | 13.2 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 7.4 |
| ø10 | KQ2U10-00A | 15.9 | 37.1 | 25 | 15.9 | 15.6 | 10.1 | 8 | 4.2 | 40 | 28.4 | 7.5 | 11.2 |
| ø12 | KQ2U12-00A | 18.5 | 41.1 | 27.8 | 18.5 | 17 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 9 | 16.4 |
| ø16 | KQ2U16-00A | 23.8 | 51.5 | 35 | 23.8 | 20.6 | 14 | 8 | 4.2 | 113 | 60 | 13 | 30.6 |

*1 øD is maximum diameter.

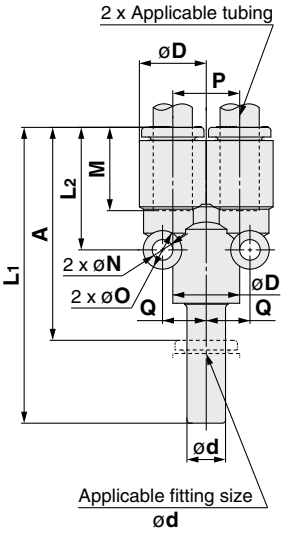



### Plug-in "Y": KQ2U



| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | *1 øD | L1 | L2 | P | A | M | Q | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Nylon | Urethane | | |
| ø3.2 | ø3.2 | KQ2U23-99A | 7.1 | 45.1 | 18 | 7.1 | 31.8 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2 | 2.5 |
| ø4 | ø4 | KQ2U04-99A | 8.2 | 44.8 | 18.2 | 8.2 | 31.5 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 2.5 | 3.1 |
| ø6 | ø6 | KQ2U06-99A | 10.4 | 46.3 | 19.4 | 10.4 | 33 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 4 | 4.5 |
| ø8 | ø8 | KQ2U08-99A | 13.2 | 52.1 | 22.3 | 13.2 | 37.9 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 8 |
| ø10 | ø10 | KQ2U10-99A | 15.9 | 57.3 | 25 | 15.9 | 41.7 | 15.6 | 10.1 | 8 | 4.2 | 40 | 28.4 | 7.5 | 12.3 |
| ø12 | ø12 | KQ2U12-99A | 18.5 | 63 | 27.8 | 18.5 | 46 | 17 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 9 | 18.3 |
| ø16 | ø16 | KQ2U16-99A | 23.8 | 75.9 | 35 | 23.8 | 55.3 | 20.6 | 14 | 8 | 4.2 | 113 | 60 | 13 | 33.5 |

*1 øD is maximum diameter.

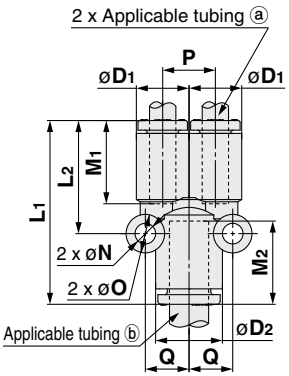



### Different Diameter Union "Y": KQ2U



| Applicable tubing O.D. [mm] | | Model | *1 øD1 | *1 øD2 | L1 | L2 | P | M1 | M2 | Q | øO | øN | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ⓐ | ⓑ | | | | | | | | | | | | Nylon | Urethane | | |
| ø2 | ø3.2 | KQ2U02-23A | 5.8 | 7.1 | 28.2 | 16.6 | 5.8 | 11.9 | 13.3 | 5.2 | 6 | 3.2 | — | 0.9 | 1.2 | 1.9 |
| ø2 | ø4 | KQ2U02-04A | 5.8 | 8.2 | 27.6 | 15.7 | 5.8 | 11.9 | 13.3 | 5.7 | 6 | 3.2 | — | 0.9 | 1.2 | 2.1 |
| ø3.2 | ø4 | KQ2U23-04A | 7.1 | 8.2 | 28.9 | 18 | 7.1 | 13.3 | 13.3 | 5.7 | 6 | 3.2 | 3.2 | 2.7 | 2.5 | 2.7 |
| ø4 | ø6 | KQ2U04-06A | 8.2 | 10.4 | 29 | 18 | 8.2 | 13.3 | 13.3 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 3 | 3.3 |
| ø6 | ø8 | KQ2U06-08A | 10.4 | 13.2 | 31 | 19.3 | 10.4 | 13.3 | 14.2 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 5 |
| ø8 | ø10 | KQ2U08-10A | 13.2 | 15.9 | 34.6 | 22.3 | 13.2 | 14.2 | 15.6 | 10.1 | 8 | 4.2 | 25.6 | 17.7 | 6 | 8.6 |
| ø10 | ø12 | KQ2U10-12A | 15.9 | 18.5 | 38.5 | 25 | 15.9 | 15.6 | 17 | 11.4 | 8 | 4.2 | 40 | 28.4 | 7.5 | 12.7 |
| ø12 | ø16 | KQ2U12-16A | 18.5 | 23.8 | 47.9 | 31 | 18.5 | 17 | 20.6 | 14 | 8 | 4.2 | 57.4 | 45.4 | 9 | 21.2 |

*1 øD1, øD2 are maximum diameters.



## Dimensions

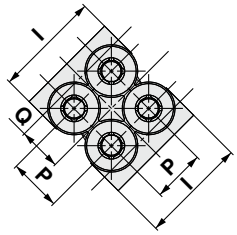
### Double Branch "Y": KQ2UD (Sealant)

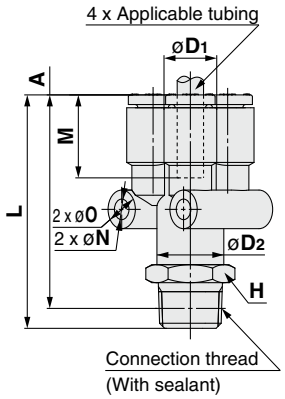


| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | *1 øD1 | øD2 | L | l | A*2 | M | P | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2UD04-01□S | 12 | 8.2 | 10.4 | 36.7 | 16.6 | 33.6 | 13.3 | 8.2 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 5.4 | 11.7 |
| | 1/4 | KQ2UD04-02□S | 14 | 8.2 | 10.4 | 41.1 | 16.6 | 36.4 | 13.3 | 8.2 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 5.4 | 20.6 |
| ø6 | 1/8 | KQ2UD06-01□S | 14 | 10.4 | 13.2 | 39.5 | 21 | 36.4 | 13.3 | 10.4 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 6 | 16.4 |
| | 1/4 | KQ2UD06-02□S | 14 | 10.4 | 13.2 | 43.9 | 21 | 39.2 | 13.3 | 10.4 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 7.3 | 21.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread



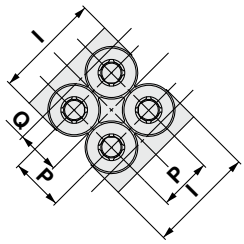



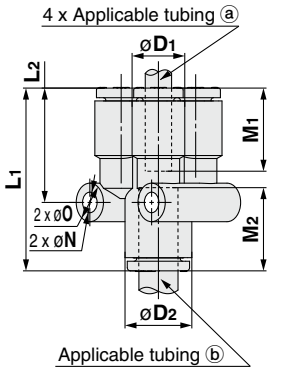

### Different Diameter Double Union "Y": KQ2UD



| Applicable tubing O.D. [mm] ⓐ | Applicable tubing O.D. [mm] ⓑ | Model | *1 øD1 | *1 øD2 | L1 | L2 | P | l | M1 | M2 | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | ø6 | KQ2UD04-06A | 8.2 | 10.4 | 29.2 | 18.2 | 8.2 | 16.6 | 13.3 | 13.3 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 3 | 5.4 |
| ø6 | ø8 | KQ2UD06-08A | 10.4 | 13.2 | 32 | 20.5 | 10.4 | 21 | 13.3 | 14.2 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 8.1 |

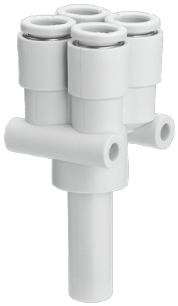
*1 øD1, øD2 are maximum diameters.



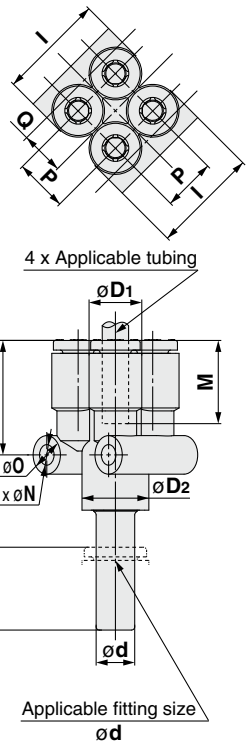
## Dimensions

### Double Plug-in "Y": KQ2XD



| Applicable tubing O.D. [mm] | Applicable fitting size ø**d** | Model | *1 ø**D1** | ø**D2** | **L1** | **L2** | **A** | **I** | **P** | **M** | **Q** | ø**O** | ø**N** | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø**4** | ø**6** | **KQ2XD04-06A** | 8.2 | 10.4 | 45.4 | 18.2 | 32.1 | 16.6 | 8.2 | 13.3 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 3 | 5.9 |
| ø**6** | ø**8** | **KQ2XD06-08A** | 10.4 | 13.2 | 50.9 | 20.5 | 36.7 | 21 | 10.4 | 13.3 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 8.6 |

*1 øD1 is maximum diameter.

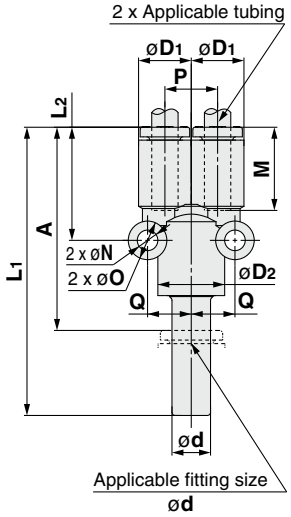



### Different Diameter Plug-in "Y": KQ2X



| Applicable tubing O.D. [mm] | Applicable fitting size ø**d** | Model | *1 ø**D1** | *1 ø**D2** | **L1** | **L2** | **A** | **P** | **M** | **Q** | ø**O** | ø**N** | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø**3.2** | ø**4** | **KQ2X23-04A** | 7.1 | 8.2 | 44.7 | 18 | 31.4 | 7.1 | 13.3 | 5.7 | 6 | 3.2 | 3.2 | 2.7 | 2.5 | 2.8 |
| ø**4** | ø**6** | **KQ2X04-06A** | 8.2 | 10.4 | 45.2 | 18 | 31.9 | 8.2 | 13.3 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 3 | 3.8 |
| ø**6** | ø**8** | **KQ2X06-08A** | 10.4 | 13.2 | 49.9 | 19.3 | 35.7 | 10.4 | 13.3 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 4.5 | 5.5 |
| ø**8** | ø**10** | **KQ2X08-10A** | 13.2 | 15.9 | 54.8 | 22.3 | 39.2 | 13.2 | 14.2 | 10.1 | 8 | 4.2 | 25.6 | 17.7 | 6 | 9.8 |
| ø**10** | ø**12** | **KQ2X10-12A** | 15.9 | 18.5 | 60.4 | 25 | 43.4 | 15.9 | 15.6 | 11.4 | 8 | 4.2 | 40 | 28.4 | 7.5 | 14.6 |

*1 øD1, øD2 are maximum diameters.



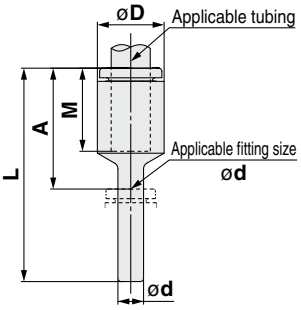
# Dimensions

## Plug-in Reducer: KQ2R

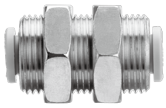


| Applicable tubing O.D. [mm] | Applicable fitting size ød | Model | øD*1 | L | A | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Nylon | Urethane | | |
| ø2 | ø4 | KQ2R02-04A | 5.8 | 27.8 | 14.5 | 11.9 | — | 0.9 | 1.4 | 0.6 |
| ø3.2 | ø4 | KQ2R23-04A | 7.1 | 28.6 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø6 | KQ2R23-06A | 7.1 | 29.1 | 15.8 | 13.3 | 3.4 | 2.9 | 2.5 | 1 |
| ø4 | ø6 | KQ2R04-06A | 8.2 | 28.6 | 15.3 | 13.3 | 5.6 | 4 | 3 | 1.1 |
| | ø8 | KQ2R04-08A | 8.2 | 29.6 | 15.4 | 13.3 | 5.6 | 4 | 3 | 1.3 |
| | ø10 | KQ2R04-10A | 10.4 | 31.7 | 16.1 | 13.3 | 5.6 | 4 | 3 | 2.2 |
| ø6 | ø4 | KQ2R06-04A | 10.4 | 33.6 | 20.3 | 13.3 | 4 | 4 | 2.5 | 1.4 |
| | ø8 | KQ2R06-08A | 10.4 | 31.6 | 17.4 | 13.3 | 13.1 | 10.4 | 4.5 | 1.7 |
| | ø10 | KQ2R06-10A | 10.4 | 33.9 | 18.3 | 13.3 | 13.1 | 10.4 | 4.5 | 2.1 |
| | ø12 | KQ2R06-12A | 12 | 35.7 | 18.7 | 13.3 | 13.1 | 10.4 | 4.5 | 3.2 |
| ø8 | ø10 | KQ2R08-10A | 13.2 | 35.1 | 19.5 | 14.2 | 26.1 | 18 | 6 | 2.9 |
| | ø12 | KQ2R08-12A | 13.2 | 36.5 | 19.5 | 14.2 | 26.1 | 18 | 6 | 3.4 |
| ø10 | ø12 | KQ2R10-12A | 15.9 | 39.2 | 22.2 | 15.6 | 41.5 | 32.8 | 7.5 | 4.5 |
| | ø16 | KQ2R10-16A | 16 | 44.7 | 24.1 | 15.6 | 41.5 | 32.8 | 7.5 | 6 |
| ø12 | ø16 | KQ2R12-16A | 18.5 | 45.7 | 25.1 | 17 | 58.3 | 46.1 | 9 | 7 |

*1 øD is maximum diameter.

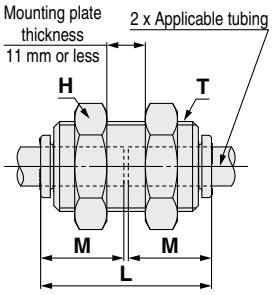



## Bulkhead Union: KQ2E (Interchangeable with KQ)



| Applicable tubing O.D. [mm] | Model | T (M) | H (Width across flats) | L | Mounting hole | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Nylon | Urethane | | |
| ø3.2 | KQ2E23-00□ | M12 x 1 | 14 | 27.3 | 13 | 13.3 | 3.4 | 2.9 | 2.5 | 24.1 |
| ø4 | KQ2E04-00□ | M12 x 1 | 14 | 27.3 | 13 | 13.3 | 5.6 | 4 | 3 | 22.9 |
| ø6 | KQ2E06-00□ | M14 x 1 | 17 | 27.3 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 28 |
| ø8 | KQ2E08-00□ | M16 x 1 | 19 | 29.1 | 17 | 14.2 | 26.1 | 18 | 6 | 34 |
| ø10 | KQ2E10-00□ | M20 x 1 | 24 | 31.9 | 21 | 15.6 | 41.5 | 29.5 | 7.5 | 64.4 |
| ø12 | KQ2E12-00□ | M22 x 1 | 27 | 34.7 | 23 | 17 | 58.3 | 46.1 | 9 | 63.8 |
| ø16 | KQ2E16-00□ | M28 x 1.5 | 32 | 41.9 | 29 | 20.6 | 113 | 67 | 13 | 120.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

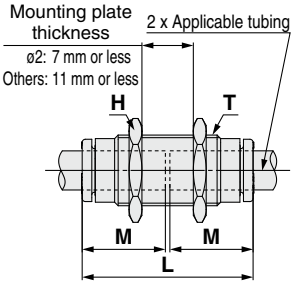



## Bulkhead Union: KQ2E (Interchangeable with KJ)

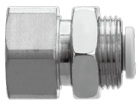


| Applicable tubing O.D. [mm] | Model | T (M) | H (Width across flats) | L | Mounting hole | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Nylon | Urethane | | |
| ø2 | KQ2E02-00□J | M7 x 0.75 | 9 | 24.5 | 8 | 11.9 | — | 0.9 | 1.4 | 5.2 |
| ø3.2 | KQ2E23-00□J | M8 x 0.75 | 10 | 27.3 | 9 | 13.3 | 3 | 2.5 | 2.5 | 6.9 |
| ø4 | KQ2E04-00□J | M9 x 0.75 | 11 | 27.3 | 10 | 13.3 | 4 | 4 | 3 | 8.3 |
| ø6 | KQ2E06-00□J | M11 x 0.75 | 14 | 27.3 | 12 | 13.3 | 10 | 10 | 4.5 | 11.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

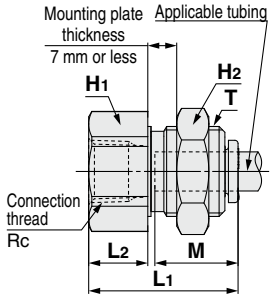



## Bulkhead Connector: KQ2E



| Applicable tubing O.D. [mm] | Connection thread Rc | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Mounting hole | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Nylon | Urethane | | |
| ø3.2 | 1/4 | KQ2E23-02□ | M12 x 1 | 17 | 14 | 28.7 | 14.3 | 13 | 13.3 | 3.4 | 2.9 | 2.5 | 31.2 |
| ø4 | 1/8 | KQ2E04-01□ | M12 x 1 | 14 | 14 | 24.4 | 10 | 13 | 13.3 | 5.6 | 4 | 3 | 21.2 |
| | 1/4 | KQ2E04-02□ | M12 x 1 | 17 | 14 | 29 | 14.6 | 13 | 13.3 | 5.6 | 4 | 3 | 30.9 |
| ø6 | 1/8 | KQ2E06-01□ | M14 x 1 | 17 | 17 | 23.6 | 9.2 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 28.9 |
| | 1/4 | KQ2E06-02□ | M14 x 1 | 17 | 17 | 28.4 | 14 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 32.4 |
| | 3/8 | KQ2E06-03□ | M14 x 1 | 19 | 17 | 30.7 | 16.3 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 35.9 |
| ø8 | 1/8 | KQ2E08-01□ | M16 x 1 | 17 | 19 | 24.1 | 6.7 | 17 | 14.2 | 26.1 | 18 | 6 | 30.5 |
| | 1/4 | KQ2E08-02□ | M16 x 1 | 17 | 19 | 28.4 | 11 | 17 | 14.2 | 26.1 | 18 | 6 | 33.1 |
| | 3/8 | KQ2E08-03□ | M16 x 1 | 19 | 19 | 31.7 | 14.3 | 17 | 14.2 | 26.1 | 18 | 6 | 37.4 |
| ø10 | 1/4 | KQ2E10-02□ | M20 x 1 | 22 | 24 | 29.3 | 9.9 | 21 | 15.6 | 41.5 | 29.5 | 7.5 | 63.8 |
| | 3/8 | KQ2E10-03□ | M20 x 1 | 22 | 24 | 31.4 | 12 | 21 | 15.6 | 41.5 | 29.5 | 7.5 | 71.6 |
| ø12 | 3/8 | KQ2E12-03□ | M22 x 1 | 24 | 27 | 32.3 | 11.9 | 23 | 17 | 58.3 | 46.1 | 9 | 69.3 |
| | 1/2 | KQ2E12-04□ | M22 x 1 | 24 | 27 | 37.7 | 17.3 | 23 | 17 | 58.3 | 46.1 | 9 | 72.7 |
| ø16 | 3/8 | KQ2E16-03□ | M28 x 1.5 | 30 | 32 | 34.4 | 11.5 | 29 | 20.6 | 96 | 67 | 13 | 122.2 |
| | 1/2 | KQ2E16-04□ | M28 x 1.5 | 30 | 32 | 38.8 | 15.9 | 29 | 20.6 | 113 | 67 | 13 | 132.1 |

□: A (Brass), N (Brass + Electroless nickel plating)



## Dimensions

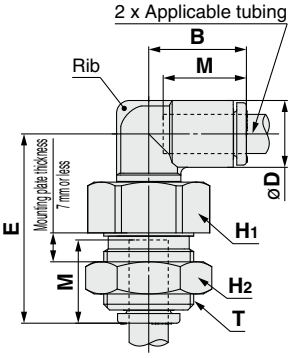
### Bulkhead Male Elbow: KQ2LE



| Applicable tubing O.D. [mm] | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | B | E | *1 øD | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | KQ2LE04-00□ | M12 x 1 | 14 | 14 | 14.8 | 28.5 | 8.2 | 13 | 13.3 | 4.2 | 4.2 | 3 | 21.2 | ● |
| ø6 | KQ2LE06-00□ | M14 x 1 | 17 | 17 | 15.5 | 29.6 | 10.4 | 15 | 13.3 | 11.4 | 9 | 4.5 | 29.4 | — |
| ø8 | KQ2LE08-00□ | M16 x 1 | 17 | 19 | 17.2 | 32.3 | 13.2 | 17 | 14.2 | 21.6 | 14.9 | 6 | 30.4 | ● |
| ø10 | KQ2LE10-00□ | M20 x 1 | 22 | 24 | 19.3 | 37.9 | 15.9 | 21 | 15.6 | 35.2 | 25 | 7.5 | 53.5 | ● |
| ø12 | KQ2LE12-00□ | M22 x 1 | 24 | 27 | 21.5 | 40.8 | 18.5 | 23 | 17 | 50.2 | 39.7 | 9 | 61 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

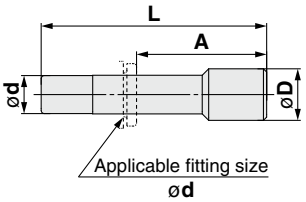
*1 øD is maximum diameter.




### Plug: KQ2P



| Applicable fitting size ød | Model | øD | L | A | Weight [g] |
|---|---|---|---|---|---|
| ø2 | KJP-02 | 3 | 17 | 5.1 | 0.1 |
| ø3.2 | KQ2P-23 | 5 | 31.5 | 18.2 | 1 |
| ø4 | KQ2P-04 | 6 | 32 | 18.7 | 1 |
| ø6 | KQ2P-06 | 8 | 35 | 21.7 | 1 |
| ø8 | KQ2P-08 | 10 | 39 | 24.8 | 2 |
| ø10 | KQ2P-10 | 12 | 43 | 27.4 | 3.5 |
| ø12 | KQ2P-12 | 14 | 45.5 | 28.5 | 5 |
| ø16 | KQ2P-16 | 20.9 | 47 | 26.4 | 8 |

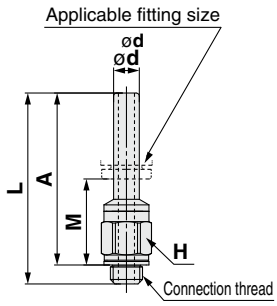



### Adapter: KQ2N (Gasket seal)



| Applicable fitting size ød | Connection thread M | Model | H (Width across flats) | L | A | M | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø4 | M5 x 0.8 | KQ2N04-M5□ | 7 | 29.7 | 26.7 | 13.4 | 2.5 | 2.4 |
| ø6 | M5 x 0.8 | KQ2N06-M5□ | 7 | 29.7 | 26.7 | 13.4 | 2.5 | 2.6 |

□: A (Brass), N (Brass + Electroless nickel plating)



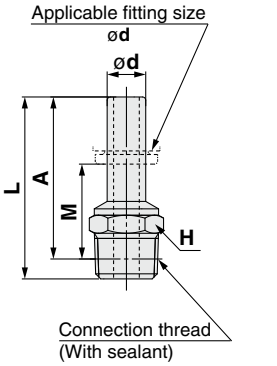

### Adapter: KQ2N (Sealant)



| Applicable fitting size ød | Connection thread R | Model | H (Width across flats) | L | A*1 | M | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2N04-01□S | 10 | 28.3 | 25.2 | 11.9 | 2.5 | 4 |
| ø6 | 1/8 | KQ2N06-01□S | 10 | 28.3 | 25.2 | 11.9 | 4 | 4.1 |
| | 1/4 | KQ2N06-02□S | 14 | 32.8 | 28.1 | 14.8 | 4 | 13.6 |
| ø8 | 1/4 | KQ2N08-02□S | 14 | 35.9 | 31.2 | 17 | 6 | 15.7 |
| | 3/8 | KQ2N08-03□S | 17 | 36 | 30.9 | 16.7 | 6 | 22.7 |
| ø10 | 3/8 | KQ2N10-03□S | 17 | 40.6 | 35.5 | 19.9 | 7.5 | 19.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



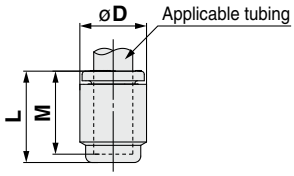
## Dimensions

### Tube Cap: KQ2C



| Applicable tubing O.D. [mm] | Model | øD*1 | L | M | Weight [g] |
|---|---|---|---|---|---|
| ø4 | KQ2C04-00A | 8.2 | 14.5 | 13.3 | 0.8 |
| ø6 | KQ2C06-00A | 10.4 | 14.6 | 13.3 | 1.1 |
| ø8 | KQ2C08-00A | 13.2 | 15.7 | 14.2 | 2 |
| ø10 | KQ2C10-00A | 15.9 | 17.3 | 15.6 | 2.9 |
| ø12 | KQ2C12-00A | 18.5 | 18.9 | 17 | 4.5 |
| ø16 | KQ2C16-00A | 23.8 | 23 | 20.6 | 8.4 |

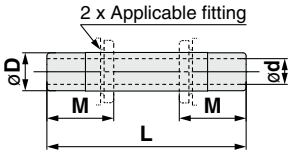
*1 øD is maximum diameter.




### Nipple: KQ2N



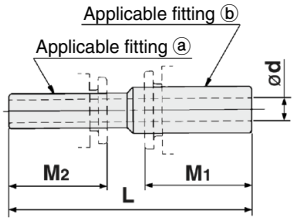
| Applicable fitting øD | Model | L | M | ød | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|
| ø4 | KQ2N04-99 | 37 | 13.3 | 2.5 | 2.5 | 1 |
| ø6 | KQ2N06-99 | 39 | 13.3 | 4 | 4 | 2 |
| ø8 | KQ2N08-99 | 43 | 14.2 | 6 | 6 | 2 |
| ø10 | KQ2N10-99 | 49 | 15.6 | 7.5 | 7.5 | 4 |
| ø12 | KQ2N12-99 | 52 | 17 | 9 | 9 | 3.3 |
| ø16 | KQ2N16-99 | 57 | 20.6 | 13 | 13 | 4.8 |



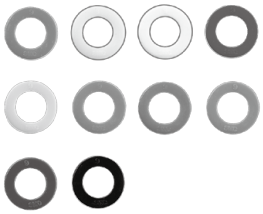

### Reducer Nipple: KQ2N



| Applicable fitting ⓐ | Applicable fitting ⓑ | Model | L | M1 | M2 | ød Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|
| ø4 | ø6 | KQ2N04-06 | 38 | 13.3 | 13.3 | 2.5 | 2 |
| ø6 | ø8 | KQ2N06-08 | 42 | 14.2 | 13.3 | 4 | 2 |
| ø8 | ø10 | KQ2N08-10 | 47 | 15.6 | 14.2 | 6 | 2 |
| ø10 | ø12 | KQ2N10-12 | 51 | 17 | 15.6 | 7.5 | 3.1 |
| ø12 | ø16 | KQ2N12-16 | 55 | 20.6 | 17 | 9 | 4.9 |

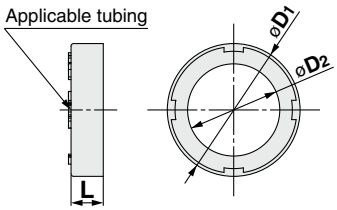



### Color Cap: KQ2C



| Applicable tubing O.D. [mm] | Model | øD1 | øD2 | L | Weight [g] | Note |
|---|---|---|---|---|---|---|
| ø2 | KQ2C-02□A | 6.1 | 3.2 | 2.6 | 0.1 | — |
| ø3.2 | KQ2C-23□A | 7.3 | 4.3 | 2.6 | 0.1 | |
| ø4 | KQ2C-04□A | 8.3 | 5.2 | 2.6 | 0.1 | |
| ø6 | KQ2C-06□A | 10.3 | 7.2 | 2.6 | 0.1 | |
| ø8 | KQ2C-08□B | 13.6 | 9.2 | 2.6 | 0.1 | Applicable for products with enlarged outside diameter of release button |
| ø10 | KQ2C-10□B | 16.2 | 11.2 | 2.7 | 0.1 | |
| ø12 | KQ2C-12□B | 18.8 | 13.2 | 2.7 | 0.2 | |
| ø16 | KQ2C-16□B | 24.2 | 17.2 | 3.2 | 0.3 | |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)




**In order to improve operability, the outside diameter of the release button has been enlarged for the new KQ2 series. Therefore, the usable color caps will differ between pre-change and post-change products.**
**Refer to page 221 for details.**

# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline, Release button color: White |
| **X35**∗1 | Body color: Black, Release button color: Light gray |
| **X41** | With fixed orifice∗2 |
| KQ2□08-01□**Q**□ | Effective area is interchangeable with the current product (KQ series).<br>Applicable model: Male elbow, 45° male elbow, Female elbow, Extended male elbow, Male branch tee, Male run tee<br>Applicable tubing O.D./Port size: ø8/R1/8<br>Thread material/Surface treatment: Brass, Brass + Electroless nickel plating<br>Example) **KQ2L08-01AQS** |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

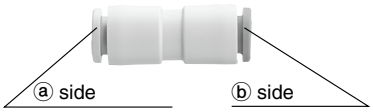
∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Metric/Inch Conversion Fittings

**Allows for the metric ↔ inch conversion of tubing**



ⓐ side
Release button: Light blue

ⓑ side
Release button: Orange

| Applicable tubing O.D. [mm] | | Model |
|---|---|---|
| ⓐ | ⓑ | |
| **ø6** | **ø1/4"** | **KQ2H06-07A-X562** |
| **ø10** | **ø3/8"** | **KQ2H10-11A-X562** |
| **ø12** | **ø1/2"** | **KQ2H12-13A-X562** |

### Variations

| | | Inch size | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | **ø1/8** (Metric nominal size: ø**3.2**) | **ø5/32** (Metric nominal size: ø**4**) | **ø3/16** | **ø1/4** | **ø5/16** (Metric nominal size: ø**8**) | **ø3/8** | **ø1/2** |
| Metric size | **ø2** | KQ2H02-23A | KQ2H02-04A | | | | | |
| | **ø3.2** (Inch nominal size: ø**1/8**) | Straight type (KQ2H23-00A/ KQ2H01-00A) | KQ2H01-03A KQ2H23-04A | | KQ2H01-07A | | | |
| | **ø4** (Inch nominal size: ø**5/32**) | KQ2H01-03A KQ2H23-04A | Straight type (KQ2H04-00A/ KQ2H03-00A) | KQ2H03-05A | KQ2H03-07A | | | |
| | **ø6** | KQ2H23-06A | KQ2H04-06A | | KQ2H06-07A-X562 (Made to Order) | KQ2H06-08A | | |
| | **ø8** (Inch nominal size: ø**5/16**) | | | | KQ2H07-09A | Straight type (KQ2H08-00A/ KQ2H09-00A) | KQ2H09-11A | KQ2H09-13A |
| | **ø10** | | | | | KQ2H08-10A | KQ2H10-11A-X562 (Made to Order) | |
| | **ø12** | | | | | | | KQ2H12-13A-X562 (Made to Order) |

## 3 Clean Series

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H06-02NS** (With thread)

**10-KQ2H06-00A** (Without thread)

## 4 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-3G2** | M3 |
| | **M-5G2** | M5 |
| | **M-6G** | M6 |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ02-P01AJ** | KQ2E02-00AJ |
| | **KQ23-P01AJ** | KQ2E23-00AJ |
| | **KQ04-P01AJ** | KQ2E04-00AJ |
| | **KQ06-P01AJ** | KQ2E06-00AJ |
| | **KQ04-P01A** | KQ2E23-00A, KQ2E04-00A, KQ2E23-02A |
| | | KQ2E04-01A, KQ2E04-02A, KQ2LE04-00A |
| | **KQ06-P01A** | KQ2E06-00A, KQ2E06-01A, KQ2E06-02A |
| | | KQ2E06-03A, KQ2LE06-00A |
| | **KQ08-P01A** | KQ2E08-00A, KQ2E08-01A, KQ2E08-02A |
| | | KQ2E08-03A, KQ2LE08-00A |
| | **KQ10-P01A** | KQ2E10-00A, KQ2E10-02A, KQ2E10-03A |
| | | KQ2LE10-00A |
| | **KQ12-P01A** | KQ2E12-00A, KQ2E12-03A, KQ2E12-04A |
| | | KQ2LE12-00A |
| | **KQ16-P01A** | KQ2E16-00A |
| | | KQ2E16-03A, KQ2E16-04A |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ02-P01NJ** | KQ2E02-00NJ |
| | **KQ23-P01NJ** | KQ2E23-00NJ |
| | **KQ04-P01NJ** | KQ2E04-00NJ |
| | **KQ06-P01NJ** | KQ2E06-00NJ |
| | **KQ04-P01N** | KQ2E23-00N, KQ2E04-00N, KQ2E23-02N |
| | | KQ2E04-01N, KQ2E04-02N, KQ2LE04-00N |
| | **KQ06-P01N** | KQ2E06-00N, KQ2E06-01N, KQ2E06-02N |
| | | KQ2E06-03N, KQ2LE06-00N |
| | **KQ08-P01N** | KQ2E08-00N, KQ2E08-01N, KQ2E08-02N |
| | | KQ2E08-03N, KQ2LE08-00N |
| | **KQ10-P01N** | KQ2E10-00N, KQ2E10-02N, KQ2E10-03N |
| | | KQ2LE10-00N |
| | **KQ12-P01N** | KQ2E12-00N, KQ2E12-03N, KQ2E12-04N |
| | | KQ2LE12-00N |
| | **KQ16-P01N** | KQ2E16-00N |
| | | KQ2E16-03N, KQ2E16-04N |

### Color Cap

| Applicable tubing O.D. [mm] | Model | ø$D_1$ | ø$D_2$ | L | Weight [g] | Note |
|---|---|---|---|---|---|---|
| ø8 | **KQ2C-08□A** | 12.8 | 9.2 | 2.6 | 0.1 | Applicable for products before enlargement of outside diameter of release button |
| ø10 | **KQ2C-10□A** | 15.2 | 11.2 | 2.7 | 0.1 | |
| ø12 | **KQ2C-12□A** | 17.6 | 13.2 | 2.7 | 0.1 | |
| ø16 | **KQ2C-16□A** | 22.4 | 17.2 | 3.2 | 0.2 | |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

# Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

# KQ2 Series

**Guide**

**Chuck**

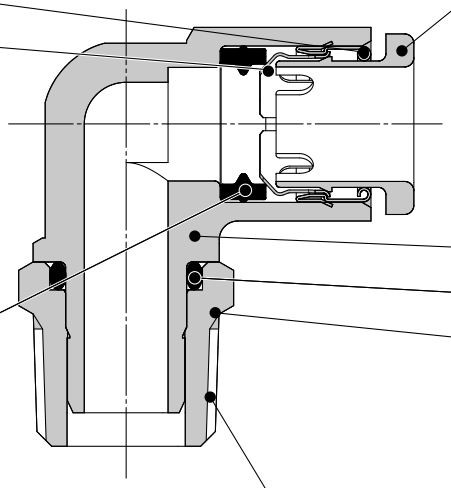
**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

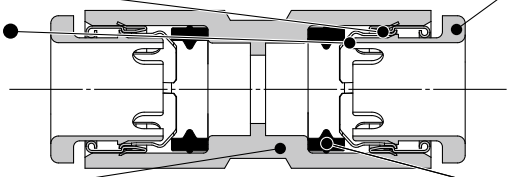
**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

UNF, NPT



**Guide**

**Chuck**

**Body**

**Release button (Orange)**

**Seal**

∗ Fittings without thread portion, and with all resin body material are copper free specification.

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



Made to Order

**Made to Order**
**(Refer to page 156 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread) |
| | **Nut section** | JIS B0208 (UNF thread) |
| **Seal on the threads** | | With sealant |

∗1 The surge pressure must be under the maximum operating pressure.

∗2 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT, PP |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

### Threaded Type

**KQ2 H 05 – 34 A S**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **LF** | Female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **Z** | Branch universal male elbow |
| **ZD** | Double branch universal male elbow |
| **ZT** | Triple branch universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **U** | Branch "Y" |
| **E** | Bulkhead union |
| | Bulkhead connector |
| **LE** | Bulkhead male elbow |

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Thread material/Surface treatment**

| Symbol | | Thread material/Surface treatment |
|---|---|---|
| **A** | | Brass |
| **N** | | Brass + Electroless nickel plating |
| Bulkhead union | **□J** | Interchangeable with KJE |

∗ □: A, N

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **32** | 10-32UNF |
| | **33** | NPT1/16 |
| | **34** | NPT1/8 |
| | **35** | NPT1/4 |
| | **36** | NPT3/8 |
| | **37** | NPT1/2 |
| Tubing connection | **00**∗1 | Same diameter tubing |

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

**Spare Parts**

Use the part number below to order the gasket for sealing 10-32UNF thread.
Gasket for 10-32UNF: M-5G2

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Tube – Tube Type

**KQ2 H 05 – 00 A**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Straight union |
| | Different diameter straight |
| **L** | Union elbow |
| | Plug-in elbow |
| | Reducer elbow |
| **R** | Plug-in reducer |
| **T** | Union tee |
| | Different diameter tee |
| **TW** | Cross |
| **U** | Union "Y" |
| | Plug-in "Y" |
| | Different diameter union "Y" |
| **X** | Different diameter plug-in "Y" |

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

| Symbol | | Size |
|---|---|---|
| Tubing (Rod) connection | **00** | Same diameter tubing |
| | **99** | Same diameter rod |
| Different dia. tubing (Reducer) | **01** | ø1/8" |
| | **03** | ø5/32" |
| | **05** | ø3/16" |
| | **07** | ø1/4" |
| | **09** | ø5/16" |
| | **11** | ø3/8" |
| | **13** | ø1/2" |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

**Accessories**

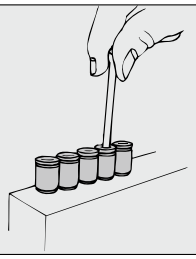
| Symbol | Name |
|---|---|
| **KQ2N** | Nipple |
| | Reducer nipple |
| **KQ2C** | Tube cap |
| **KQ2P** | Plug |

## Round Type Variations

**Hexagon socket head male connector**
**KQ2S** P.139



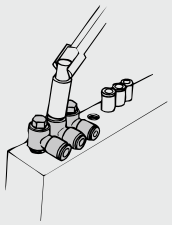
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.142



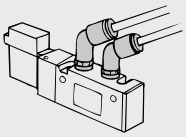
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.142



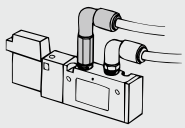
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.147



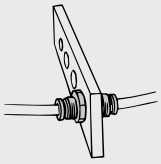
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.153



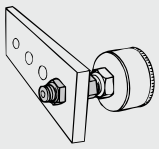
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.154



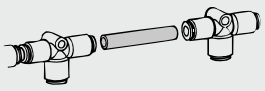
Use to connect a male thread and tubing through a panel, etc.



**Nipple**
**KQ2N** P.155



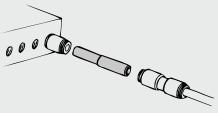
Use to connect One-touch fittings.



**Reducer nipple**
**KQ2N** P.155



Use to connect One-touch fittings of different sizes.



**Male connector**
**KQ2H** P.137



Use to pipe a female thread in the same direction. Most general model.

**Hexagon socket head universal male elbow**
**KQ2VS** P.143



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Branch universal male elbow**
**KQ2Z** P.146



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

**Female connector**
**KQ2F** P.138



Use to pipe a male thread of a pressure gauge, etc.

**Universal female elbow**
**KQ2VF** P.143



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Double branch universal male elbow**
**KQ2ZD** P.146



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

**Straight union**
**KQ2H** P.138



Use to connect tubing in the same direction.

**Female elbow**
**KQ2LF** P.141



Use to pipe a male thread at right angles.

**Triple branch universal male elbow**
**KQ2ZT** P.147



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

**Different diameter straight**
**KQ2H** P.138



Use to connect tubing of different sizes.

**Double universal male elbow**
**KQ2VD** P.144



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Union elbow**
**KQ2L** P.141



Use to connect tubing at right angles.

**Male elbow**
**KQ2L** P.140



Use to pipe a female thread at right angles. Most general model.

**Triple universal male elbow**
**KQ2VT** P.145



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

**Plug-in elbow**
**KQ2L** P.141



Use to change the tube direction of One-touch fittings by 90°.

**Reducer elbow**
**KQ2L** P.141

Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

**Male branch tee**
**KQ2T** P.148

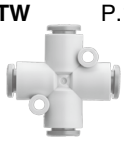
Use to branch a female thread at both 90° angles.

**Union tee**
**KQ2T** P.149

Use to branch tubing at both 90° angles.

**Different diameter tee**
**KQ2T** P.149

Use to connect tubing of reduced size for branching at both 90° angles.

**Cross**
**KQ2TW** P.149

Use to four-branch a line.

**Male run tee**
**KQ2Y** P.150

Use to branch a female thread in the same direction and at a 90° angle.

**Branch "Y"**
**KQ2U** P.151

Use to branch a female thread in the same direction.

**Union "Y"**
**KQ2U** P.152

Use to branch tubing in the same direction.

**Different diameter union "Y"**
**KQ2U** P.152

Use to connect tubing of reduced size for branching in the same direction.

**Plug-in "Y"**
**KQ2U** P.152

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

**Different diameter plug-in "Y"**
**KQ2X** P.153

Use to branch One-touch fittings and connect tubing of reduced size in the same direction.

**Plug-in reducer**
**KQ2R** P.153

Use to change size of One-touch fittings.

**Bulkhead male elbow**
**KQ2LE** P.154

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

**Tube cap**
**KQ2C** P.155

Use to plug unused tubing.

**Plug**
**KQ2P** P.154

Use to plug unused One-touch fittings.

**Color cap**
**KQ2C** P.155

Mount onto the release button and use different colors for piping according to applications.

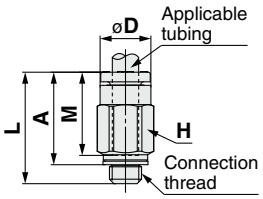
## Dimensions

### Male Connector: KQ2H (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Nylon | Urethane | | |
| ø1/8 | 10-32UNF | **KQ2H01-32□** | 7 | 6.7 | 17.4 | 14.4 | 13.3 | 3 | 2.5 | 2.3 | 2.7 |
| ø5/32 | 10-32UNF | **KQ2H03-32□** | 8 | 7.7 | 17.6 | 14.6 | 13.3 | 3.3 | 3.3 | 2.3 | 3.3 |
| ø3/16 | 10-32UNF | **KQ2H05-32□** | 8 | 8.3 | 17.7 | 14.7 | 13.3 | 3.4 | 3.4 | 2.3 | 3.4 |
| ø1/4 | 10-32UNF | **KQ2H07-32□** | 11.11 | 10.9 | 18 | 15 | 13.3 | 3.4 | 3.4 | 2.3 | 5.2 |

□: A (Brass), N (Brass + Electroless nickel plating)



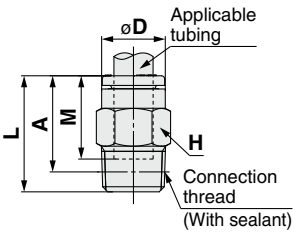

### Male Connector: KQ2H (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | L | A*1 | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Nylon | Urethane | | |
| ø1/8 | 1/16 | **KQ2H01-33□S** | 9.5 | 6.7 | 19.3 | 15.2 | 13.3 | 3 | 2.5 | 2.5 | 6 |
| | 1/8 | **KQ2H01-34□S** | 11.11 | 6.7 | 14 | 10.8 | 13.3 | 3 | 2.5 | 2.5 | 7.1 |
| | 1/4 | **KQ2H01-35□S** | 14.29 | 6.7 | 16.7 | 12.3 | 13.3 | 3.4 | 2.9 | 2.5 | 16.2 |
| ø5/32 | 1/16 | **KQ2H03-33□S** | 9.5 | 7.7 | 20 | 15.9 | 13.3 | 4.8 | 3.4 | 3 | 6.1 |
| | 1/8 | **KQ2H03-34□S** | 11.11 | 7.7 | 14 | 10.8 | 13.3 | 4.8 | 3.4 | 3 | 6.5 |
| | 1/4 | **KQ2H03-35□S** | 14.29 | 7.7 | 16.7 | 12.3 | 13.3 | 4.8 | 3.4 | 3 | 15.6 |
| ø3/16 | 1/8 | **KQ2H05-34□S** | 11.11 | 8.3 | 17.4 | 14.2 | 13.3 | 7.8 | 6.5 | 3.5 | 7.4 |
| | 1/4 | **KQ2H05-35□S** | 14.29 | 8.3 | 16.7 | 12.3 | 13.3 | 7.8 | 6.5 | 3.5 | 14.9 |
| ø1/4 | 1/16 | **KQ2H07-33□S** | 11.11 | 10.9 | 22.5 | 18.4 | 13.3 | 13.5 | 11.5 | 4.6 | 7.6 |
| | 1/8 | **KQ2H07-34□S** | 11.11 | 10.9 | 18 | 14.8 | 13.3 | 13.5 | 11.5 | 4.6 | 6.5 |
| | 1/4 | **KQ2H07-35□S** | 14.29 | 10.9 | 16.7 | 12.3 | 13.3 | 13.5 | 11.5 | 4.6 | 13.1 |
| | 3/8 | **KQ2H07-36□S** | 17.46 | 10.9 | 18.1 | 13.4 | 13.3 | 13.5 | 11.5 | 4.6 | 25.7 |
| ø5/16 | 1/8 | **KQ2H09-34□S** | 14.29 | 13 | 22.2 | 19 | 14.2 | 26.1 | 18 | 6 | 12.6 |
| | 1/4 | **KQ2H09-35□S** | 14.29 | 13 | 22.1 | 17.7 | 14.2 | 26.1 | 18 | 6 | 15.2 |
| | 3/8 | **KQ2H09-36□S** | 17.46 | 13 | 18.1 | 13.4 | 14.2 | 26.1 | 18 | 6 | 22.5 |
| ø3/8 | 1/8 | **KQ2H11-34□S** | 17.46 | 15.1 | 24.1 | 20.9 | 15.6 | 26 | 26 | 6 | 19.5 |
| | 1/4 | **KQ2H11-35□S** | 17.46 | 15.1 | 25.1 | 20.7 | 15.6 | 35.3 | 29.1 | 7 | 21 |
| | 3/8 | **KQ2H11-36□S** | 17.46 | 15.1 | 22.7 | 18 | 15.6 | 35.3 | 29.1 | 7 | 23.5 |
| | 1/2 | **KQ2H11-37□S** | 22.23 | 15.1 | 22.3 | 15.9 | 15.6 | 35.3 | 29.1 | 7 | 49.1 |
| ø1/2 | 1/4 | **KQ2H13-35□S** | 22.23 | 19 | 28.8 | 24.4 | 17 | 58.5 | 51.7 | 9 | 34.4 |
| | 3/8 | **KQ2H13-36□S** | 22.23 | 19 | 27.5 | 22.8 | 17 | 66 | 51.7 | 9.6 | 36.2 |
| | 1/2 | **KQ2H13-37□S** | 22.23 | 19 | 28 | 21.6 | 17 | 66 | 51.7 | 9.6 | 47.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



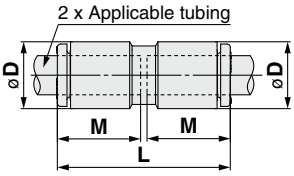
## Dimensions

### Straight Union: KQ2H



| Applicable tubing O.D. [inch] | Model | øD*1 | L | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| | | | | | Nylon | Urethane | | |
| ø1/8 | **KQ2H01-00A** | 7.1 | 27.6 | 13.3 | 3.4 | 2.9 | 2.5 | 1.4 |
| ø5/32 | **KQ2H03-00A** | 8.2 | 27.6 | 13.3 | 5.6 | 4 | 3 | 1.6 |
| ø3/16 | **KQ2H05-00A** | 9.1 | 27.6 | 13.3 | 7.8 | 6.5 | 3.5 | 1.9 |
| ø1/4 | **KQ2H07-00A** | 11.1 | 27.6 | 13.3 | 13.5 | 11.5 | 4.6 | 2.4 |
| ø5/16 | **KQ2H09-00A** | 13.2 | 29.4 | 14.2 | 26.1 | 18 | 6 | 3.7 |
| ø3/8 | **KQ2H11-00A** | 15.4 | 32.2 | 15.6 | 35.3 | 29.1 | 7 | 5.2 |
| ø1/2 | **KQ2H13-00A** | 19.3 | 35 | 17 | 66 | 51.7 | 9.6 | 8.7 |

*1 øD is maximum diameter.

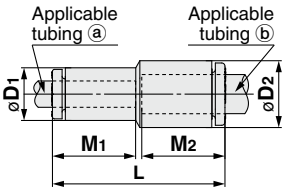



### Different Diameter Straight: KQ2H



| Applicable tubing O.D. [inch] | | Model | øD1*1 | øD2*1 | L | M1 | M2 | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ⓐ | ⓑ | | | | | | | Nylon | Urethane | | |
| ø1/8 | ø5/32 | **KQ2H01-03A** | 7.1 | 8.2 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 1.5 |
| | ø1/4 | **KQ2H01-07A** | 7.1 | 11.1 | 27.6 | 13.3 | 13.3 | 3.4 | 2.9 | 2.5 | 2 |
| ø5/32 | ø3/16 | **KQ2H03-05A** | 8.2 | 9.1 | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 1.8 |
| | ø1/4 | **KQ2H03-07A** | 8.2 | 11.1 | 27.6 | 13.3 | 13.3 | 5.6 | 5.6 | 3 | 2.1 |
| ø3/16 | ø1/4 | **KQ2H05-07A** | 9.1 | 11.1 | 27.6 | 13.3 | 13.3 | 7.8 | 6.5 | 3.5 | 2.2 |
| ø1/4 | ø5/16 | **KQ2H07-09A** | 11.1 | 13.2 | 28.5 | 13.3 | 14.2 | 13.5 | 11.5 | 4.6 | 3.2 |
| | ø3/8 | **KQ2H07-11A** | 11.1 | 15.4 | 29.9 | 13.3 | 15.6 | 13.5 | 11.5 | 4.6 | 4.1 |
| ø5/16 | ø3/8 | **KQ2H09-11A** | 13.2 | 15.4 | 30.8 | 14.2 | 15.6 | 26.1 | 18 | 6 | 4.7 |
| | ø1/2 | **KQ2H09-13A** | 13.2 | 19.3 | 32.2 | 14.2 | 17 | 26.1 | 18 | 6 | 6.6 |
| ø3/8 | ø1/2 | **KQ2H11-13A** | 15.4 | 19.3 | 33.6 | 15.6 | 17 | 35.3 | 29.1 | 7 | 7.3 |

*1 øD1, øD2 are maximum diameters.



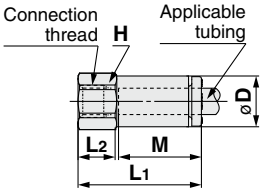

### Female Connector: KQ2F



| Applicable tubing O.D. [inch] | Connection thread UNF, NPT | Model | H (Width across flats) | øD*1 | L1 | L2 | M | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Nylon | Urethane | | |
| ø1/8 | 10-32UNF | **KQ2F01-32□** | 7 | 6.9 | 19.7 | 5.7 | 13.3 | 3 | 2.5 | 2.5 | 3.4 |
| | 1/8 | **KQ2F01-34□** | 14.29 | 6.9 | 25 | 9.5 | 13.3 | 3 | 2.5 | 2.5 | 13.4 |
| | 1/4 | **KQ2F01-35□** | 17.46 | 6.9 | 29.8 | 13.3 | 13.3 | 3 | 2.5 | 2.5 | 24.4 |
| ø5/32 | 10-32UNF | **KQ2F03-32□** | 8 | 7.9 | 19.5 | 5.7 | 13.3 | 4 | 4 | 3 | 4.5 |
| | 1/8 | **KQ2F03-34□** | 14.29 | 7.9 | 24.8 | 9.5 | 13.3 | 5.6 | 4 | 3 | 13.7 |
| | 1/4 | **KQ2F03-35□** | 17.46 | 7.9 | 29.7 | 13.3 | 13.3 | 5.6 | 4 | 3 | 24.7 |
| ø1/4 | 10-32UNF | **KQ2F07-32□** | 11.11 | 10.9 | 17.7 | 5.5 | 13.3 | 10.1 | 10.1 | 3.9 | 6.7 |
| | 1/8 | **KQ2F07-34□** | 14.29 | 10.9 | 24.4 | 9.5 | 13.3 | 13 | 11.5 | 4.6 | 14.2 |
| | 1/4 | **KQ2F07-35□** | 17.46 | 10.9 | 29.2 | 13.3 | 13.3 | 13 | 11.5 | 4.6 | 25.1 |
| | 3/8 | **KQ2F07-36□** | 22.23 | 10.9 | 30.5 | 13.2 | 13.3 | 13 | 11.5 | 4.6 | 38.7 |
| ø5/16 | 1/8 | **KQ2F09-34□** | 14.29 | 13 | 24.8 | 9.2 | 14.2 | 26.1 | 18 | 6 | 15.2 |
| | 1/4 | **KQ2F09-35□** | 17.46 | 13 | 29.7 | 11.8 | 14.2 | 26.1 | 18 | 6 | 26.2 |
| | 3/8 | **KQ2F09-36□** | 22.23 | 13 | 31 | 12.4 | 14.2 | 26.1 | 18 | 6 | 39.8 |
| ø3/8 | 1/4 | **KQ2F11-35□** | 17.46 | 15.1 | 30.5 | 11.8 | 15.6 | 35.3 | 29.1 | 8 | 27.2 |
| | 3/8 | **KQ2F11-36□** | 22.23 | 15.1 | 31.8 | 12.4 | 15.6 | 35.3 | 29.1 | 8 | 40.7 |
| | 1/2 | **KQ2F11-37□** | 23.81 | 15.1 | 34.9 | 15.8 | 15.6 | 35.3 | 29.1 | 8 | 45.6 |
| ø1/2 | 3/8 | **KQ2F13-36□** | 22.23 | 19 | 32.6 | 12.4 | 17 | 66 | 51.7 | 10 | 43.8 |
| | 1/2 | **KQ2F13-37□** | 23.81 | 19 | 35.7 | 15.8 | 17 | 66 | 51.7 | 10 | 48.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



## Dimensions

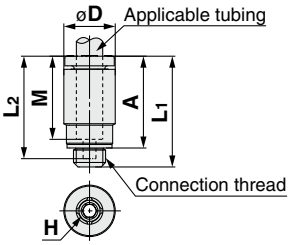
### Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | øD*1 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2S01-32□** | 2 | 7 | 17.5 | 16.3 | 14.5 | 13.3 | 2.5 | 2.5 | 2 | 2.6 |
| ø5/32 | 10-32UNF | **KQ2S03-32□** | 2.5 | 8 | 18.6 | 17.8 | 15.6 | 13.3 | 4 | 4 | 2.5 | 3 |
| ø1/4 | 10-32UNF | **KQ2S07-32□** | 2.5 | 10.3 | 19 | 17.8 | 16 | 13.3 | 4 | 4 | 2.5 | 3.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.




### Hexagon Socket Head Male Connector: KQ2S (Sealant)

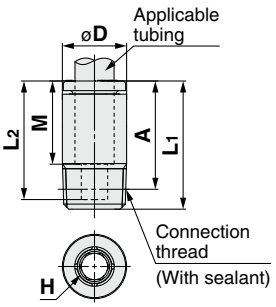


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD*1 | L1 | L2 | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | 1/16 | **KQ2S03-33□S** | 2.78 | 8 | 19.8 | 18.8 | 15.7 | 13.3 | 4.1 | 3.6 | 2.8 | 4.5 |
| | 1/8 | **KQ2S03-34□S** | 2.78 | 10.3 | 17.3 | 16.3 | 14.1 | 13.3 | 4.1 | 3.6 | 2.8 | 6 |
| ø3/16 | 1/8 | **KQ2S05-34□S** | 3.57 | 11 | 19.8 | 18.8 | 16.6 | 13.3 | 7.8 | 6.5 | 3.6 | 7.5 |
| ø1/4 | 1/16 | **KQ2S07-33□S** | 3.57 | 10.3 | 20.9 | 18.8 | 16.8 | 13.3 | 8.4 | 8.4 | 3.6 | 6.3 |
| | 1/8 | **KQ2S07-34□S** | 4.76 | 10.3 | 19.8 | 18.8 | 16.6 | 13.3 | 13.5 | 11.5 | 4.8 | 7.4 |
| | 1/4 | **KQ2S07-35□S** | 4.76 | 13.8 | 19.8 | 18.8 | 15.4 | 13.3 | 13.5 | 11.5 | 4.8 | 13.2 |
| | 3/8 | **KQ2S07-36□S** | 4.76 | 17 | 20.8 | 19.8 | 16.1 | 13.3 | 13.5 | 11.5 | 4.8 | 24 |
| ø5/16 | 1/8 | **KQ2S09-34□S** | 5.56 | 13 | 22.3 | 19.7 | 19.1 | 14.2 | 17.2 | 16.2 | 5.6 | 9.7 |
| | 1/4 | **KQ2S09-35□S** | 6.35 | 14 | 21.2 | 20.1 | 16.8 | 14.2 | 23.3 | 16.2 | 6.4 | 12.6 |
| | 3/8 | **KQ2S09-36□S** | 6.35 | 17.5 | 20.7 | 19.7 | 16 | 14.2 | 23.3 | 16.2 | 6.4 | 21 |
| ø3/8 | 1/8 | **KQ2S11-34□S** | 5.56 | 15.1 | 23.7 | 21.1 | 20.5 | 15.6 | 22.7 | 22.7 | 5.6 | 12.1 |
| | 1/4 | **KQ2S11-35□S** | 6.35 | 15.1 | 24.4 | 21.1 | 20 | 15.6 | 29.6 | 29.1 | 6.4 | 15.2 |
| | 3/8 | **KQ2S11-36□S** | 6.35 | 18 | 22.1 | 21.1 | 17.4 | 15.6 | 29.6 | 29.1 | 6.4 | 22.7 |
| | 1/2 | **KQ2S11-37□S** | 6.35 | 21.3 | 22.1 | 21.1 | 15.7 | 15.6 | 29.6 | 29.1 | 6.4 | 40.6 |
| ø1/2 | 1/4 | **KQ2S13-35□S** | 8 | 19 | 28.5 | 22.5 | 24.1 | 17 | 48 | 48 | 8.1 | 18.9 |
| | 3/8 | **KQ2S13-36□S** | 9.53 | 19 | 26.3 | 22.5 | 21.6 | 17 | 66 | 51.7 | 9.6 | 20.7 |
| | 1/2 | **KQ2S13-37□S** | 9.53 | 22 | 23.5 | 22.5 | 17.1 | 17 | 66 | 51.7 | 9.6 | 33.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.

*2 Reference dimensions after installation of NPT thread



## Dimensions

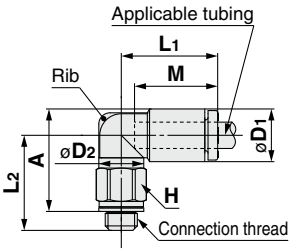
### Male Elbow: KQ2L (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | KQ2L01-32□ | 7 | 7.1 | 7 | 15.3 | 14.2 | 14.8 | 13.3 | 2.6 | 2.2 | 2.5 | 3 | ● |
| ø5/32 | 10-32UNF | KQ2L03-32□ | 7 | 8.2 | 7 | 15.4 | 14.7 | 15.8 | 13.3 | 3.5 | 3.5 | 2.5 | 3.1 | ● |
| ø3/16 | 10-32UNF | KQ2L05-32□ | 7 | 9.1 | 7 | 14.5 | 15.8 | 17.4 | 13.3 | 3.5 | 3.5 | 2.5 | 3.2 | ● |
| ø1/4 | 10-32UNF | KQ2L07-32□ | 7 | 11.1 | 7 | 15.4 | 16 | 18.6 | 13.3 | 3.5 | 3.5 | 2.5 | 3.5 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



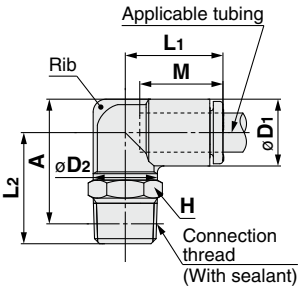

### Male Elbow: KQ2L (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A∗2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2L01-33□S | 11.11 | 7.1 | 10 | 14.5 | 24.3 | 23.8 | 13.3 | 3 | 2.5 | 2.5 | 9.1 | — |
| | 1/8 | KQ2L01-34□S | 11.11 | 7.1 | 10 | 14.5 | 16.7 | 17.1 | 13.3 | 3 | 2.5 | 2.5 | 5.5 | — |
| | 1/4 | KQ2L01-35□S | 14.29 | 7.1 | 10 | 14.5 | 21.1 | 20.3 | 13.3 | 3 | 2.5 | 2.5 | 15 | — |
| ø5/32 | 1/16 | KQ2L03-33□S | 11.11 | 8.2 | 10 | 14.8 | 23.8 | 23.8 | 13.3 | 4.6 | 3.3 | 3 | 9.3 | ● |
| | 1/8 | KQ2L03-34□S | 11.11 | 8.2 | 10 | 14.8 | 16.2 | 17.1 | 13.3 | 4.6 | 3.3 | 3 | 5.6 | ● |
| | 1/4 | KQ2L03-35□S | 14.29 | 8.2 | 10 | 14.8 | 21.6 | 21.3 | 13.3 | 4.6 | 3.3 | 3 | 15.2 | ● |
| ø3/16 | 1/8 | KQ2L05-34□S | 11.11 | 9.1 | 10 | 15 | 16.7 | 18.1 | 13.3 | 6.8 | 5.6 | 3.5 | 5.8 | — |
| | 1/4 | KQ2L05-35□S | 14.29 | 9.1 | 10 | 15 | 22.1 | 22.3 | 13.3 | 6.8 | 5.6 | 3.5 | 15.4 | — |
| ø1/4 | 1/16 | KQ2L07-33□S | 11.11 | 11.1 | 10 | 15.6 | 25.3 | 26.8 | 13.3 | 6.8 | 6.8 | 3.5 | 9.8 | ● |
| | 1/8 | KQ2L07-34□S | 11.11 | 11.1 | 10 | 15.6 | 17.7 | 20.1 | 13.3 | 11.3 | 10 | 4.5 | 6.1 | ● |
| | 1/4 | KQ2L07-35□S | 14.29 | 11.1 | 10 | 15.6 | 23.1 | 24.3 | 13.3 | 11.3 | 10 | 4.5 | 15.7 | ● |
| | 3/8 | KQ2L07-36□S | 17.46 | 11.1 | 10 | 15.6 | 24.5 | 25.4 | 13.3 | 11.3 | 10 | 4.5 | 28 | ● |
| ø5/16 | 1/8 | KQ2L09-34□S | 11.11 | 13.2 | 10 | 16.4 | 18.7 | 22.1 | 14.2 | 11.4 | 11.4 | 4.5 | 6.9 | ● |
| | | KQ2L09-34□QS ∗3 | 12.7 | 13.2 | 12 | 17.2 | 23.5 | 26.9 | 14.2 | 21.6 | 14.9 | 6 | 9.9 | ● |
| | 1/4 | KQ2L09-35□S | 14.29 | 13.2 | 12 | 17.2 | 24.1 | 26.3 | 14.2 | 21.6 | 14.9 | 6 | 14.1 | ● |
| | 3/8 | KQ2L09-36□S | 17.46 | 13.2 | 12 | 17.2 | 25.5 | 27.4 | 14.2 | 21.6 | 14.9 | 6 | 26.2 | ● |
| ø3/8 | 1/8 | KQ2L11-34□S | 12.7 | 15.4 | 12 | 18.6 | 23.2 | 27.7 | 15.6 | 21.2 | 21.2 | 6 | 11.8 | ● |
| | 1/4 | KQ2L11-35□S | 17.46 | 15.4 | 17 | 19.3 | 28.6 | 31.9 | 15.6 | 28.8 | 23.8 | 7.5 | 21.7 | ● |
| | 3/8 | KQ2L11-36□S | 17.46 | 15.4 | 17 | 19.3 | 29.2 | 32.2 | 15.6 | 28.8 | 23.8 | 7.5 | 19.8 | ● |
| | 1/2 | KQ2L11-37□S | 22.23 | 15.4 | 17 | 19.3 | 33.4 | 34.7 | 15.6 | 28.8 | 23.8 | 7.5 | 46.2 | ● |
| ø1/2 | 1/4 | KQ2L13-35□S | 17.46 | 19.3 | 17 | 21.5 | 30.5 | 35.7 | 17 | 50.3 | 44.4 | 9 | 24 | — |
| | 3/8 | KQ2L13-36□S | 17.46 | 19.3 | 17 | 21.8 | 26.3 | 31.2 | 17 | 56 | 44.4 | 9.5 | 20.3 | — |
| | 1/2 | KQ2L13-37□S | 22.23 | 19.3 | 17 | 21.8 | 30.5 | 33.7 | 17 | 56 | 44.4 | 9.5 | 46.3 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.
∗2 Reference dimensions after installation of NPT thread
∗3 For details, refer to page 156.



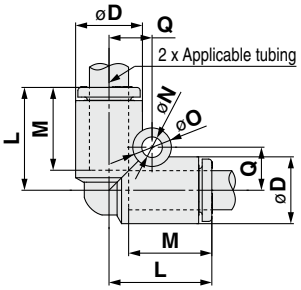
## Dimensions

### Union Elbow: KQ2L



| Applicable tubing O.D. [inch] | Model | ø**D**∗1 | **L** | **Q** | **M** | ø**O** | ø**N** | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Nylon | Urethane | | |
| ø1/8 | **KQ2L01-00A** | 7.1 | 14.9 | 5.4 | 13.3 | 6 | 3.2 | 3 | 2.5 | 2.5 | 1.6 |
| ø5/32 | **KQ2L03-00A** | 8.2 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 4.2 | 4.2 | 3 | 1.9 |
| ø3/16 | **KQ2L05-00A** | 9.1 | 15.7 | 6.2 | 13.3 | 6 | 3.2 | 6.8 | 5.6 | 3.5 | 2.2 |
| ø1/4 | **KQ2L07-00A** | 11.1 | 16.5 | 7.2 | 13.3 | 6 | 3.2 | 11.6 | 10 | 4.6 | 2.9 |
| ø5/16 | **KQ2L09-00A** | 13.2 | 18.2 | 8.4 | 14.2 | 8 | 4.2 | 21.6 | 14.9 | 6 | 4.7 |
| ø3/8 | **KQ2L11-00A** | 15.4 | 20.4 | 9.9 | 15.6 | 8 | 4.2 | 28.8 | 23.8 | 7 | 6.7 |
| ø1/2 | **KQ2L13-00A** | 19.3 | 23.4 | 11.8 | 17 | 8 | 4.2 | 56.7 | 44.4 | 9.6 | 10.8 |

∗1 øD is maximum diameter.

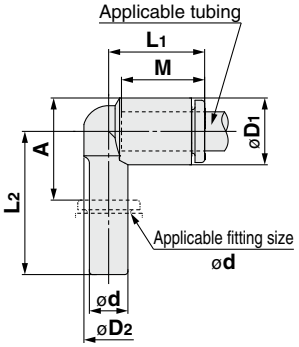



### Plug-in Elbow: KQ2L



| Applicable tubing O.D. [inch] | Applicable fitting size ø**d** [inch] | Model | ø**D1**∗1 | ø**D2** | **L1** | **L2** | **A** | **M** | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Nylon | Urethane | | |
| ø1/8 | ø1/8 | **KQ2L01-99A** | 7.1 | 6.4 | 14.5 | 20.9 | 11.1 | 13.3 | 3 | 2.5 | 2.2 | 0.9 |
| ø5/32 | ø5/32 | **KQ2L03-99A** | 8.2 | 7.2 | 14.5 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 2.5 | 1.2 |
| ø3/16 | ø3/16 | **KQ2L05-99A** | 9.1 | 8 | 15 | 22.2 | 13.4 | 13.3 | 6.8 | 5.6 | 3.5 | 1.4 |
| ø1/4 | ø1/4 | **KQ2L07-99A** | 11.1 | 8 | 15.6 | 22.8 | 15 | 13.3 | 11.6 | 10 | 4.6 | 1.9 |
| ø5/16 | ø5/16 | **KQ2L09-99A** | 13.2 | 10 | 17.2 | 26.2 | 18.6 | 14.2 | 21.6 | 14.9 | 6 | 3 |
| ø3/8 | ø3/8 | **KQ2L11-99A** | 15.4 | 12 | 19.1 | 28 | 20.1 | 15.6 | 28.8 | 23.8 | 7 | 4.5 |
| ø1/2 | ø1/2 | **KQ2L13-99A** | 19.3 | 14 | 21.8 | 38.7 | 31.3 | 17 | 56.7 | 44.4 | 9.6 | 7.8 |

∗1 øD1 is maximum diameter.

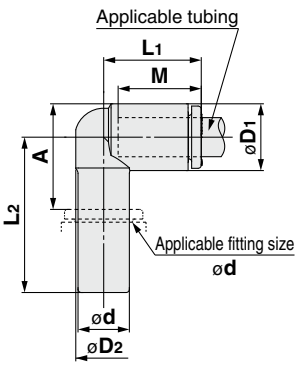



### Reducer Elbow: KQ2L



| Applicable tubing O.D. [inch] | Applicable fitting size ø**d** [inch] | Model | ø**D1**∗1 | ø**D2** | **L1** | **L2** | **A** | **M** | Effective area [mm²] | | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Nylon | Urethane | | |
| ø1/8 | ø5/32 | **KQ2L01-03A** | 7.1 | 6.4 | 14.5 | 23.9 | 14.1 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø3/16 | **KQ2L01-05A** | 7.1 | 6.4 | 14.5 | 28.4 | 18.6 | 13.3 | 3 | 2.5 | 2.5 | 1.1 |
| | ø1/4 | **KQ2L01-07A** | 7.1 | 6.4 | 14.5 | 24.5 | 14.7 | 13.3 | 3 | 2.5 | 2.5 | 1.3 |
| ø5/32 | ø3/16 | **KQ2L03-05A** | 8.2 | 7.2 | 14.8 | 29.1 | 19.9 | 13.3 | 4.2 | 4.2 | 3 | 1.3 |
| | ø1/4 | **KQ2L03-07A** | 8.2 | 7.2 | 14.8 | 21.1 | 11.9 | 13.3 | 4.2 | 4.2 | 3 | 1.4 |
| ø3/16 | ø1/4 | **KQ2L05-07A** | 9.1 | 8 | 15 | 21.6 | 12.8 | 13.3 | 6.8 | 5.6 | 3.5 | 1.5 |
| | ø5/16 | **KQ2L05-09A** | 9.1 | 8 | 15 | 30 | 20.3 | 13.3 | 6.8 | 5.6 | 3.5 | 1.9 |
| ø1/4 | ø5/16 | **KQ2L07-09A** | 11.1 | 8 | 15.6 | 30.7 | 22 | 13.3 | 11.6 | 10 | 4.6 | 2.3 |
| | ø3/8 | **KQ2L07-11A** | 11.1 | 8 | 15.6 | 31.1 | 21 | 13.3 | 11.6 | 10 | 4.6 | 3 |
| ø5/16 | ø3/8 | **KQ2L09-11A** | 13.2 | 10 | 18.8 | 34.1 | 25.1 | 14.2 | 21.6 | 14.9 | 6 | 3.7 |
| | ø1/2 | **KQ2L09-13A** | 13.2 | 10 | 18.8 | 35.6 | 25.2 | 14.2 | 21.6 | 14.9 | 6 | 4.6 |
| ø3/8 | ø1/2 | **KQ2L11-13A** | 15.4 | 12 | 19.1 | 36.5 | 27.2 | 15.6 | 28.8 | 23.8 | 7 | 5.6 |

∗1 øD1 is maximum diameter.



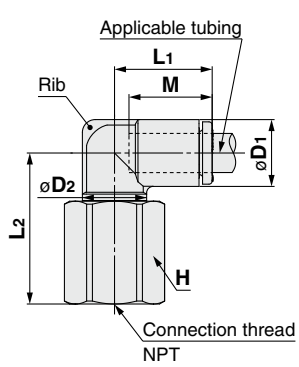

### Female Elbow: KQ2LF



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | **H** (Width across flats) | ø**D1**∗1 | ø**D2** | **L1** | **L2** | **M** | Effective area [mm²] | | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Nylon | Urethane | | | |
| ø1/8 | 1/8 | **KQ2LF01-34□** | 14.29 | 7.1 | 10 | 14.5 | 22.8 | 13.3 | 3 | 2.5 | 2.5 | 18.2 | — |
| | 1/4 | **KQ2LF01-35□** | 17.46 | 7.1 | 10 | 14.5 | 26.3 | 13.3 | 3 | 2.5 | 2.5 | 31.7 | — |
| ø5/32 | 1/8 | **KQ2LF03-34□** | 14.29 | 8.2 | 10 | 14.8 | 22.4 | 13.3 | 4.2 | 4.2 | 3 | 18.3 | ● |
| | 1/4 | **KQ2LF03-35□** | 17.46 | 8.2 | 10 | 14.8 | 26.9 | 13.3 | 4.2 | 4.2 | 3 | 31.9 | ● |
| ø1/4 | 1/8 | **KQ2LF07-34□** | 14.29 | 11.1 | 10 | 15.6 | 23.9 | 13.3 | 11.3 | 10 | 4.5 | 18.9 | ● |
| | 1/4 | **KQ2LF07-35□** | 17.46 | 11.1 | 10 | 15.6 | 28.4 | 13.3 | 11.3 | 10 | 4.5 | 32.4 | ● |
| | 3/8 | **KQ2LF07-36□** | 22.23 | 11.1 | 10 | 15.6 | 28.9 | 13.3 | 11.3 | 10 | 4.5 | 53.1 | ● |
| ø3/8 | 1/4 | **KQ2LF11-35□** | 17.46 | 15.4 | 17 | 19.3 | 27.1 | 15.6 | 28.8 | 23.8 | 7 | 28 | ● |
| | 3/8 | **KQ2LF11-36□** | 22.23 | 15.4 | 17 | 19.3 | 33.3 | 15.6 | 28.8 | 23.8 | 7 | 49.6 | ● |
| | 1/2 | **KQ2LF11-37□** | 23.81 | 15.4 | 17 | 19.3 | 36.3 | 15.6 | 28.8 | 23.8 | 7 | 56.9 | ● |
| ø1/2 | 3/8 | **KQ2LF13-36□** | 22.23 | 19.3 | 17 | 21.8 | 30.4 | 17 | 56 | 44.4 | 9.5 | 51.4 | — |
| | 1/2 | **KQ2LF13-37□** | 23.81 | 19.3 | 17 | 21.8 | 33.4 | 17 | 56 | 44.4 | 9.5 | 58 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



## Dimensions

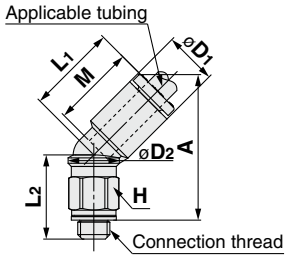
### 45° Male Elbow: KQ2K (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2K01-32□** | 7 | 7.1 | 8 | 14.4 | 13 | 21.9 | 13.3 | 3 | 2.5 | 2.5 | 2.8 |
| ø5/32 | 10-32UNF | **KQ2K03-32□** | 7 | 8.2 | 8 | 14.4 | 13 | 22.2 | 13.3 | 3.4 | 3.4 | 2.5 | 3 |
| ø1/4 | 10-32UNF | **KQ2K07-32□** | 7 | 11.1 | 8 | 14.9 | 16.5 | 26.8 | 13.3 | 3.5 | 3.5 | 2.5 | 3.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.



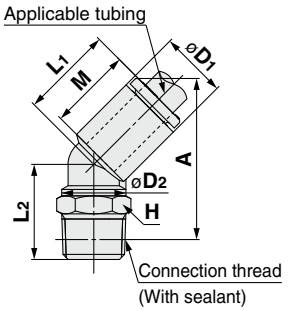

### 45° Male Elbow: KQ2K (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2K01-34□S** | 11.11 | 7.1 | 10 | 14.3 | 12.7 | 21.8 | 13.3 | 3 | 2.5 | 2.5 | 5.3 |
| ø5/32 | 1/8 | **KQ2K03-34□S** | 11.11 | 8.2 | 10 | 14.4 | 12.7 | 22.2 | 13.3 | 4.8 | 3.4 | 3 | 5.5 |
| ø3/16 | 1/8 | **KQ2K05-34□S** | 11.11 | 9.1 | 10 | 14.5 | 13.2 | 23.1 | 13.3 | 6.8 | 5.6 | 3.5 | 5.6 |
| ø1/4 | 1/8 | **KQ2K07-34□S** | 11.11 | 11.1 | 10 | 14.8 | 15.2 | 25.8 | 13.3 | 11.3 | 10 | 4.5 | 6 |
| | 1/4 | **KQ2K07-35□S** | 14.29 | 11.1 | 10 | 14.8 | 19.6 | 29 | 13.3 | 11.3 | 10 | 4.5 | 15.6 |
| | 3/8 | **KQ2K07-36□S** | 17.46 | 11.1 | 10 | 14.8 | 21 | 30.1 | 13.3 | 11.3 | 10 | 4.5 | 27.8 |
| ø5/16 | 1/8 | **KQ2K09-34□S** | 11.11 | 13.2 | 10 | 16 | 15.7 | 27.9 | 14.2 | 11.3 | 11.3 | 4.5 | 6.8 |
| | | **KQ2K09-34□QS** *3 | 12.7 | 13.2 | 12 | 16 | 20.5 | 32.7 | 14.2 | 19.7 | 19.7 | 6 | 9.7 |
| | 1/4 | **KQ2K09-35□S** | 14.29 | 13.2 | 12 | 16 | 21.1 | 32.1 | 14.2 | 19.7 | 19.7 | 6 | 13.9 |
| | 3/8 | **KQ2K09-36□S** | 17.46 | 13.2 | 12 | 16 | 22.5 | 33.2 | 14.2 | 19.7 | 19.7 | 6 | 26 |
| ø3/8 | 1/8 | **KQ2K11-34□S** | 12.7 | 15.4 | 12 | 18.1 | 21.1 | 35.5 | 15.6 | 21.2 | 21.2 | 6 | 11.7 |
| | 1/4 | **KQ2K11-35□S** | 17.46 | 15.4 | 17 | 17.7 | 28.6 | 41.5 | 15.6 | 28.8 | 23.8 | 7 | 21.8 |
| | 3/8 | **KQ2K11-36□S** | 17.46 | 15.4 | 17 | 17.7 | 23.5 | 36.1 | 15.6 | 28.8 | 23.8 | 7 | 19.2 |
| | 1/2 | **KQ2K11-37□S** | 22.23 | 15.4 | 17 | 17.7 | 27.7 | 38.6 | 15.6 | 28.8 | 23.8 | 7 | 45.7 |
| ø1/2 | 1/4 | **KQ2K13-35□S** | 17.46 | 19.3 | 17 | 19.4 | 28.7 | 44.1 | 17 | 50.3 | 44.4 | 9 | 23.8 |
| | 3/8 | **KQ2K13-36□S** | 17.46 | 19.3 | 17 | 19.4 | 23.6 | 38.7 | 17 | 56 | 44.4 | 9.5 | 19.9 |
| | 1/2 | **KQ2K13-37□S** | 22.23 | 19.3 | 17 | 19.4 | 27.8 | 41.2 | 17 | 56 | 44.4 | 9.5 | 46 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of NPT thread
*3 For details, refer to page 156.



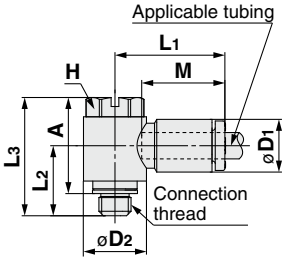

### Universal Male Elbow: KQ2V (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2V01-32□** | 8 | 7.1 | 9.8 | 17.5 | 10.4 | 17.9 | 14.9 | 13.3 | 2.2 | 1.9 | 2.5 | 5.2 |
| ø5/32 | 10-32UNF | **KQ2V03-32□** | 8 | 8.2 | 9.8 | 17.5 | 10.4 | 17.9 | 14.9 | 13.3 | 2.9 | 2.9 | 2.5 | 5.3 |
| ø1/4 | 10-32UNF | **KQ2V07-32□** | 8 | 11.1 | 13.4 | 20.6 | 12.1 | 24 | 20.5 | 13.3 | 2.9 | 2.9 | 2.5 | 12.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.



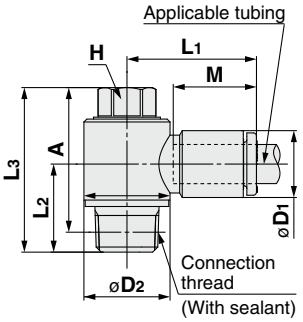

### Universal Male Elbow: KQ2V (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2V01-34□S** | 8 | 7.1 | 13.4 | 19.3 | 13.7 | 25.6 | 22.4 | 13.3 | 2.2 | 1.9 | 2.5 | 13.5 |
| ø5/32 | 1/8 | **KQ2V03-34□S** | 8 | 8.2 | 13.4 | 19.3 | 13.7 | 25.6 | 22.4 | 13.3 | 2.9 | 2.9 | 3 | 13.6 |
| ø3/16 | 1/8 | **KQ2V05-34□S** | 8 | 9.1 | 13.4 | 19.6 | 13.7 | 25.6 | 22.4 | 13.3 | 4.5 | 3.7 | 3.5 | 13.7 |
| ø1/4 | 1/8 | **KQ2V07-34□S** | 8 | 11.1 | 13.4 | 20.6 | 13.7 | 25.6 | 22.4 | 13.3 | 7.5 | 6.6 | 4.5 | 14.1 |
| | 1/4 | **KQ2V07-35□S** | 8 | 11.1 | 15.3 | 19.9 | 18.7 | 32.1 | 27.7 | 13.3 | 7.5 | 6.6 | 4.5 | 25.6 |
| ø5/16 | 1/8 | **KQ2V09-34□S** | 11.11 | 13.2 | 17.6 | 23.5 | 15.1 | 27.6 | 24.4 | 14.2 | 16 | 11.2 | 6 | 22.3 |
| | 1/4 | **KQ2V09-35□S** | 11.11 | 13.2 | 17.6 | 23.5 | 18.5 | 31 | 26.6 | 14.2 | 16 | 11.2 | 6 | 29.2 |
| | 3/8 | **KQ2V09-36□S** | 12.7 | 13.2 | 20.6 | 23.1 | 19.5 | 35.3 | 30.6 | 14.2 | 16 | 11.2 | 6 | 44.1 |
| ø3/8 | 1/4 | **KQ2V11-35□S** | 12.7 | 15.4 | 20.6 | 25.8 | 19.6 | 34.9 | 30.5 | 15.6 | 23.4 | 19.3 | 7 | 37.5 |
| | 3/8 | **KQ2V11-36□S** | 12.7 | 15.4 | 20.6 | 25.8 | 20 | 35.3 | 30.6 | 15.6 | 23.4 | 19.3 | 7 | 45.2 |
| ø1/2 | 3/8 | **KQ2V13-36□S** | 17.46 | 19.3 | 27 | 30.5 | 20.2 | 35.1 | 30.4 | 17 | 38.8 | 34.3 | 9 | 64 |
| | 1/2 | **KQ2V13-37□S** | 17.46 | 19.3 | 27 | 30.5 | 23.4 | 38.3 | 31.9 | 17 | 38.8 | 34.3 | 9 | 82.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of NPT thread



## Dimensions

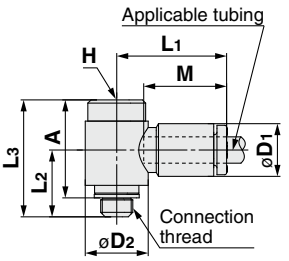
### Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VS01-32□** | 4 | 7.1 | 9.8 | 17.5 | 10.4 | 18.2 | 15.2 | 13.3 | 2.2 | 1.9 | 2.3 | 5.3 |
| ø5/32 | 10-32UNF | **KQ2VS03-32□** | 4 | 8.2 | 9.8 | 17.5 | 10.4 | 18.2 | 15.2 | 13.3 | 2.9 | 2.9 | 2.3 | 5.4 |
| ø1/4 | 10-32UNF | **KQ2VS07-32□** | 6.35 | 11.1 | 13.4 | 20.6 | 11.1 | 23.2 | 20.2 | 13.3 | 2.9 | 2.9 | 2.5 | 11.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.




### Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)

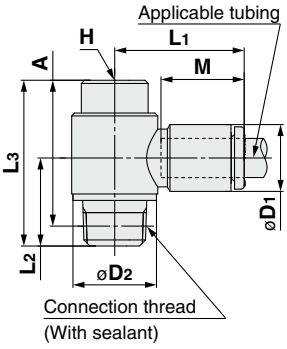


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VS01-34□S** | 6.35 | 7.1 | 13.4 | 19.3 | 13.7 | 25.8 | 22.6 | 13.3 | 2.2 | 1.9 | 2.5 | 13.1 |
| ø5/32 | 1/8 | **KQ2VS03-34□S** | 6.35 | 8.2 | 13.4 | 19.3 | 13.7 | 25.8 | 22.6 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø3/16 | 1/8 | **KQ2VS05-34□S** | 6.35 | 9.1 | 13.4 | 19.6 | 13.7 | 25.8 | 22.6 | 13.3 | 4.5 | 3.7 | 3.5 | 13.3 |
| ø1/4 | 1/8 | **KQ2VS07-34□S** | 6.35 | 11.1 | 13.4 | 20.6 | 13.7 | 25.8 | 22.6 | 13.3 | 7.7 | 6.6 | 4.6 | 13.7 |
| | 1/4 | **KQ2VS07-35□S** | 6.35 | 11.1 | 15.3 | 19.9 | 18.7 | 28.1 | 23.7 | 13.3 | 7.7 | 6.6 | 4.6 | 20.8 |
| ø5/16 | 1/8 | **KQ2VS09-34□S** | 8 | 13.2 | 17.6 | 23.5 | 15.1 | 26 | 22.8 | 14.2 | 16 | 11.2 | 6 | 19.3 |
| | 1/4 | **KQ2VS09-35□S** | 8 | 13.2 | 17.6 | 23.5 | 18.5 | 29.5 | 25.1 | 14.2 | 16 | 11.2 | 6 | 24.6 |
| | 3/8 | **KQ2VS09-36□S** | 8 | 13.2 | 20.6 | 23.1 | 19.5 | 31.4 | 26.7 | 14.2 | 16 | 11.2 | 6 | 37.6 |
| ø3/8 | 1/4 | **KQ2VS11-35□S** | 8 | 15.4 | 20.6 | 25.8 | 19.6 | 30.8 | 26.4 | 15.6 | 23.4 | 19.3 | 7 | 29 |
| | 3/8 | **KQ2VS11-36□S** | 8 | 15.4 | 20.6 | 25.8 | 20 | 31.4 | 26.7 | 15.6 | 23.4 | 19.3 | 7 | 38.6 |
| ø1/2 | 3/8 | **KQ2VS13-36□S** | 9.53 | 19.3 | 27 | 30.5 | 20.2 | 33.6 | 28.9 | 17 | 38.8 | 34.3 | 9 | 59.2 |
| | 1/2 | **KQ2VS13-37□S** | 9.53 | 19.3 | 27 | 30.5 | 23.4 | 36.8 | 30.4 | 17 | 38.8 | 34.3 | 9 | 78.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.

*2 Reference dimensions after installation of NPT thread



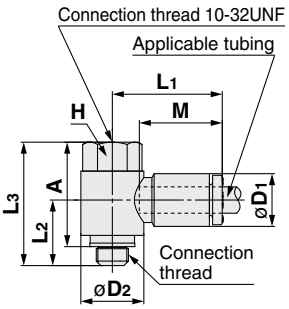

### Universal Female Elbow: KQ2VF (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VF01-32□** | 8 | 7.1 | 9.8 | 17.5 | 10.4 | 19.4 | 16.4 | 13.3 | 2.2 | 1.9 | 2.5 | 5.4 |
| ø5/32 | 10-32UNF | **KQ2VF03-32□** | 8 | 8.2 | 9.8 | 17.5 | 10.4 | 19.4 | 16.4 | 13.3 | 2.9 | 2.9 | 2.5 | 5.5 |
| ø1/4 | 10-32UNF | **KQ2VF07-32□** | 14.29 | 11.1 | 13.4 | 20.6 | 12.8 | 22.4 | 19.4 | 13.3 | 2.9 | 2.9 | 2.5 | 14.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.




### Universal Female Elbow: KQ2VF (Sealant)

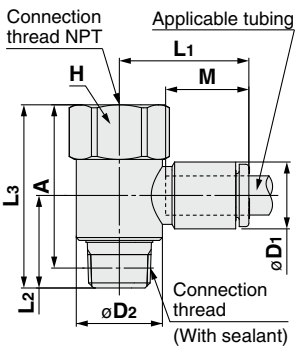


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VF01-34□S** | 14.29 | 7.1 | 13.4 | 19.3 | 14.4 | 28.5 | 25.3 | 13.3 | 2.2 | 1.9 | 2.5 | 18 |
| ø5/32 | 1/8 | **KQ2VF03-34□S** | 14.29 | 8.2 | 13.4 | 19.3 | 14.4 | 28.5 | 25.3 | 13.3 | 2.9 | 2.9 | 3 | 18.1 |
| ø3/16 | 1/8 | **KQ2VF05-34□S** | 14.29 | 9.1 | 13.4 | 19.6 | 14.4 | 28.5 | 25.3 | 13.3 | 4.5 | 3.7 | 3.5 | 18.2 |
| ø1/4 | 1/8 | **KQ2VF07-34□S** | 14.29 | 11.1 | 13.4 | 20.6 | 14.4 | 28.5 | 25.3 | 13.3 | 7.7 | 6.6 | 4.6 | 18.5 |
| | 1/4 | **KQ2VF07-35□S** | 17.46 | 11.1 | 17.6 | 21.3 | 19.4 | 37.9 | 33.5 | 13.3 | 7.7 | 6.6 | 4.6 | 38.4 |
| ø5/16 | 1/8 | **KQ2VF09-34□S** | 17.46 | 13.2 | 17.6 | 23.5 | 15.5 | 30 | 26.8 | 14.2 | 16 | 11.2 | 6 | 28.7 |
| | 1/4 | **KQ2VF09-35□S** | 17.46 | 13.2 | 17.6 | 23.5 | 18.9 | 37.9 | 33.5 | 14.2 | 16 | 11.2 | 6 | 39.3 |
| | 3/8 | **KQ2VF09-36□S** | 22.23 | 13.2 | 25.2 | 24.9 | 24 | 44 | 39.3 | 14.2 | 16 | 11.2 | 6 | 67.2 |
| ø3/8 | 1/4 | **KQ2VF11-35□S** | 22.23 | 15.4 | 20.6 | 25.8 | 20.7 | 40.3 | 35.9 | 15.6 | 23.4 | 19.3 | 7 | 58.7 |
| | 3/8 | **KQ2VF11-36□S** | 22.23 | 15.4 | 25.2 | 26.3 | 23.2 | 44 | 39.3 | 15.6 | 23.4 | 19.3 | 7 | 67.9 |
| ø1/2 | 3/8 | **KQ2VF13-36□S** | 25.4 | 19.3 | 27 | 30.5 | 21.2 | 40.7 | 36 | 17 | 38.8 | 34.3 | 9 | 69.8 |
| | 1/2 | **KQ2VF13-37□S** | 25.4 | 19.3 | 27 | 30.5 | 24.4 | 48.9 | 42.5 | 17 | 38.8 | 34.3 | 9 | 105.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.

*2 Reference dimensions after installation of NPT thread



## Dimensions

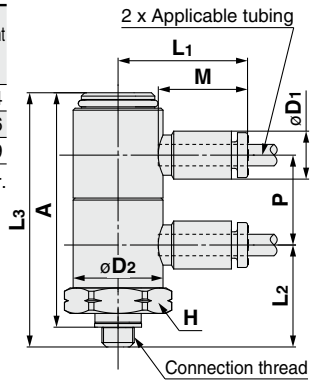
### Double Universal Male Elbow: KQ2VD (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VD01-32□** | 14.29 | 7.1 | 13.4 | 19.3 | 15.2 | 37.9 | 34.9 | 13.3 | 13.4 | 2.2 | 1.9 | 2.3 | 24.4 |
| ø5/32 | 10-32UNF | **KQ2VD03-32□** | 14.29 | 8.2 | 13.4 | 19.3 | 15.2 | 37.9 | 34.9 | 13.3 | 13.4 | 2.5 | 2.5 | 2.3 | 24.6 |
| ø1/4 | 10-32UNF | **KQ2VD07-32□** | 14.29 | 11.1 | 13.4 | 20.6 | 15.6 | 38.7 | 35.7 | 13.3 | 13.8 | 2.5 | 2.5 | 2.3 | 26.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.




### Double Universal Male Elbow: KQ2VD (Sealant)

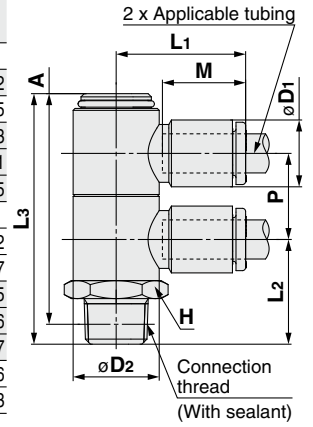


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VD01-34□S** | 14.29 | 7.1 | 13.4 | 19.3 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 20 |
| ø5/32 | 1/8 | **KQ2VD03-34□S** | 14.29 | 8.2 | 13.4 | 19.3 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 20.2 |
| ø3/16 | 1/8 | **KQ2VD05-34□S** | 14.29 | 9.1 | 13.4 | 19.6 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 20.5 |
| ø1/4 | 1/8 | **KQ2VD07-34□S** | 14.29 | 11.1 | 13.4 | 20.6 | 17.7 | 40.8 | 37.6 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 23.3 |
| | 1/4 | **KQ2VD07-35□S** | 14.29 | 11.1 | 13.4 | 20.6 | 21.1 | 44.2 | 39.8 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 30.1 |
| | 3/8 | **KQ2VD07-36□S** | 17.46 | 11.1 | 13.4 | 20.6 | 22.5 | 45.6 | 40.9 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 42.5 |
| ø5/16 | 1/4 | **KQ2VD09-35□S** | 19 | 13.2 | 17.6 | 23.7 | 22.4 | 49.2 | 44.8 | 14.2 | 15.9 | 16 | 11.2 | 6 | 45 |
| | 3/8 | **KQ2VD09-36□S** | 19 | 13.2 | 17.6 | 23.7 | 23 | 49.8 | 45.1 | 14.2 | 15.9 | 16 | 11.2 | 6 | 53.2 |
| | 1/2 | **KQ2VD09-37□S** | 22.23 | 13.2 | 17.6 | 23.7 | 27.2 | 54 | 47.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 79.7 |
| ø3/8 | 1/4 | **KQ2VD11-35□S** | 22.23 | 15.4 | 20.6 | 25.3 | 24.4 | 56.3 | 51.9 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 65.5 |
| | 3/8 | **KQ2VD11-36□S** | 22.23 | 15.4 | 20.6 | 25.3 | 24.8 | 56.7 | 52 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 67.6 |
| | 1/2 | **KQ2VD11-37□S** | 22.23 | 15.4 | 20.6 | 25.3 | 28.7 | 60.6 | 54.2 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 87.7 |
| ø1/2 | 3/8 | **KQ2VD13-36□S** | 25.4 | 19.3 | 27 | 30.5 | 29.6 | 64.4 | 59.7 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 128.6 |
| | 1/2 | **KQ2VD13-37□S** | 25.4 | 19.3 | 27 | 30.5 | 32.8 | 67.6 | 61.2 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 146.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.

∗2 Reference dimensions after installation of NPT thread



## Dimensions

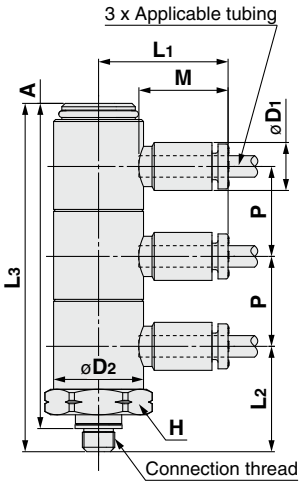
### Triple Universal Male Elbow: KQ2VT (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2VT01-32□** | 14.29 | 7.1 | 13.4 | 19.3 | 15.7 | 51.9 | 48.4 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 32.4 |
| ø5/32 | 10-32UNF | **KQ2VT03-32□** | 14.29 | 8.2 | 13.4 | 19.3 | 15.7 | 51.9 | 48.4 | 13.3 | 13.4 | 2.9 | 2.9 | 2.5 | 32.7 |
| ø1/4 | 10-32UNF | **KQ2VT07-32□** | 14.29 | 11.1 | 13.4 | 20.6 | 16.1 | 53 | 49.5 | 13.3 | 13.8 | 2.3 | 2.3 | 2.5 | 35.4 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.




### Triple Universal Male Elbow: KQ2VT (Sealant)

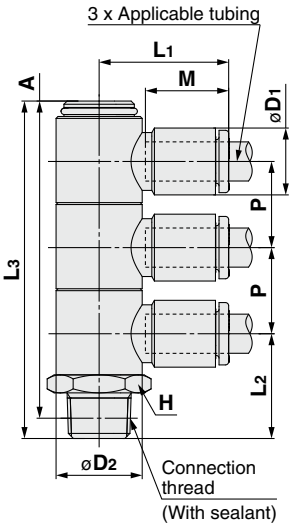


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A∗2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VT01-34□S** | 14.29 | 7.1 | 13.4 | 19.3 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 25.5 |
| ø5/32 | 1/8 | **KQ2VT03-34□S** | 14.29 | 8.2 | 13.4 | 19.3 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 25.8 |
| ø3/16 | 1/8 | **KQ2VT05-34□S** | 14.29 | 9.1 | 13.4 | 19.6 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 26.2 |
| ø1/4 | 1/8 | **KQ2VT07-34□S** | 14.29 | 11.1 | 13.4 | 20.6 | 17.7 | 54.6 | 51.4 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 29.7 |
| | 1/4 | **KQ2VT07-35□S** | 14.29 | 11.1 | 13.4 | 20.6 | 21.1 | 58 | 53.6 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 36.6 |
| | 3/8 | **KQ2VT07-36□S** | 17.46 | 11.1 | 13.4 | 20.6 | 22.5 | 59.4 | 54.7 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 49 |
| ø5/16 | 1/4 | **KQ2VT09-35□S** | 17.46 | 13.2 | 17.6 | 23.7 | 22.4 | 65.2 | 60.8 | 14.2 | 15.9 | 16 | 11.2 | 6 | 55.4 |
| | 3/8 | **KQ2VT09-36□S** | 19 | 13.2 | 17.6 | 23.7 | 23 | 65.8 | 61.1 | 14.2 | 15.9 | 16 | 11.2 | 6 | 65.3 |
| | 1/2 | **KQ2VT09-37□S** | 22.23 | 13.2 | 17.6 | 23.7 | 27.2 | 70 | 63.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 91.8 |
| ø3/8 | 1/4 | **KQ2VT11-35□S** | 22.23 | 15.4 | 20.6 | 25.3 | 24.4 | 75.6 | 71.2 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 84.2 |
| | 3/8 | **KQ2VT11-36□S** | 22.23 | 15.4 | 20.6 | 25.3 | 24.8 | 76 | 71.3 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 91.8 |
| | 1/2 | **KQ2VT11-37□S** | 22.23 | 15.4 | 20.6 | 25.3 | 28.7 | 79.9 | 73.5 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 104.4 |
| ø1/2 | 3/8 | **KQ2VT13-36□S** | 25.4 | 19.3 | 27 | 30.5 | 29.6 | 86.8 | 82.1 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 169.3 |
| | 1/2 | **KQ2VT13-37□S** | 25.4 | 19.3 | 27 | 30.5 | 32.8 | 90 | 83.6 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 187 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.

∗2 Reference dimensions after installation of NPT thread



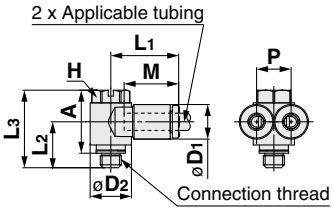
## Dimensions

### Branch Universal Male Elbow: KQ2Z (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2Z01-32□** | 8 | 7.1 | 9.8 | 16.5 | 10.4 | 17.9 | 14.9 | 13.3 | 7.1 | 2.2 | 1.9 | 2.5 | 5.9 |
| ø5/32 | 10-32UNF | **KQ2Z03-32□** | 8 | 8.2 | 9.8 | 16.5 | 10.4 | 17.9 | 14.9 | 13.3 | 8.2 | 2.9 | 2.9 | 2.5 | 6.2 |
| ø1/4 | 10-32UNF | **KQ2Z07-32□** | 8 | 11.1 | 13.4 | 18.4 | 12.1 | 24 | 20.5 | 13.3 | 11.1 | 2.9 | 2.9 | 2.5 | 13.4 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.

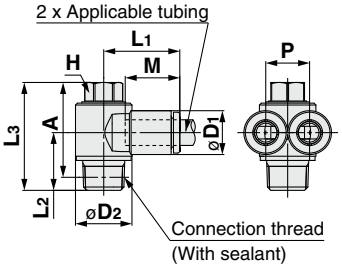



### Branch Universal Male Elbow: KQ2Z (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2Z01-34□S** | 8 | 7.1 | 13.4 | 18.5 | 13.7 | 25.6 | 22.4 | 13.3 | 7.1 | 2.2 | 1.9 | 2.5 | 14.1 |
| ø5/32 | 1/8 | **KQ2Z03-34□S** | 8 | 8.2 | 13.4 | 18.5 | 13.7 | 25.6 | 22.4 | 13.3 | 8.2 | 2.9 | 2.9 | 3 | 14.4 |
| ø3/16 | 1/8 | **KQ2Z05-34□S** | 8 | 9.1 | 13.4 | 18.4 | 13.7 | 25.6 | 22.4 | 13.3 | 9.1 | 4.5 | 3.7 | 3.5 | 14.7 |
| ø1/4 | 1/8 | **KQ2Z07-34□S** | 8 | 11.1 | 13.4 | 18.4 | 13.7 | 25.6 | 22.4 | 13.3 | 11.1 | 7.5 | 6.6 | 4.5 | 15.2 |
| | 1/4 | **KQ2Z07-35□S** | 11.11 | 11.1 | 17.6 | 20.4 | 18 | 31 | 26.6 | 13.3 | 11.1 | 7.7 | 6.6 | 4.5 | 29.5 |
| ø5/16 | 1/8 | **KQ2Z09-34□S** | 11.11 | 13.2 | 17.6 | 21.2 | 15.1 | 27.6 | 24.4 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 24.1 |
| | 1/4 | **KQ2Z09-35□S** | 11.11 | 13.2 | 17.6 | 21.2 | 18.5 | 31 | 26.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 31 |
| | 3/8 | **KQ2Z09-36□S** | 12.7 | 13.2 | 20.6 | 22.3 | 19.5 | 35.3 | 30.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 46 |
| ø3/8 | 1/4 | **KQ2Z11-35□S** | 12.7 | 15.4 | 20.6 | 25.9 | 19.1 | 34.9 | 30.5 | 15.6 | 15.4 | 23.4 | 19.3 | 7 | 40.7 |
| | 3/8 | **KQ2Z11-36□S** | 12.7 | 15.4 | 20.6 | 25.9 | 19.5 | 35.3 | 30.6 | 15.6 | 15.4 | 23.4 | 19.3 | 7 | 48.4 |
| ø1/2 | 3/8 | **KQ2Z13-36□S** | 17.46 | 19.3 | 27 | 30.1 | 20.2 | 35.1 | 30.4 | 17 | 19.3 | 38.8 | 34.3 | 9 | 69.5 |
| | 1/2 | **KQ2Z13-37□S** | 17.46 | 19.3 | 27 | 30.1 | 23.4 | 38.3 | 31.9 | 17 | 19.3 | 38.8 | 34.3 | 9 | 88.1 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of NPT thread

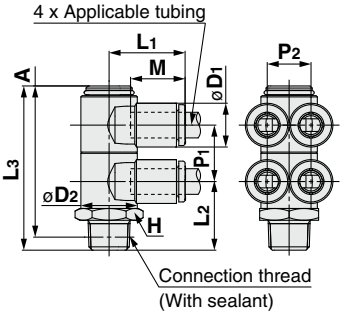



### Double Branch Universal Male Elbow: KQ2ZD (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | $P_1$ | $P_2$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2ZD01-34□S** | 14.29 | 7.1 | 13.4 | 18.5 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 7.1 | 2.2 | 1.9 | 2.5 | 21.2 |
| ø5/32 | 1/8 | **KQ2ZD03-34□S** | 14.29 | 8.2 | 13.4 | 18.5 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 8.2 | 2.9 | 2.9 | 3 | 21.8 |
| ø3/16 | 1/8 | **KQ2ZD05-34□S** | 14.29 | 9.1 | 13.4 | 18.4 | 16.3 | 39 | 35.8 | 13.3 | 13.4 | 9.1 | 4.5 | 3.7 | 3.5 | 22.4 |
| ø1/4 | 1/8 | **KQ2ZD07-34□S** | 14.29 | 11.1 | 13.4 | 18.3 | 17.7 | 40.8 | 37.6 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 25.5 |
| | 1/4 | **KQ2ZD07-35□S** | 14.29 | 11.1 | 13.4 | 18.3 | 21.1 | 44.2 | 39.8 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 32.4 |
| | 3/8 | **KQ2ZD07-36□S** | 17.46 | 11.1 | 13.4 | 18.3 | 22.5 | 45.6 | 40.9 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 44.8 |
| ø5/16 | 1/4 | **KQ2ZD09-35□S** | 19 | 13.2 | 17.6 | 21.95 | 22.4 | 49.2 | 44.8 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 48.7 |
| | 3/8 | **KQ2ZD09-36□S** | 19 | 13.2 | 17.6 | 21.95 | 23 | 49.8 | 45.1 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 56.8 |
| | 1/2 | **KQ2ZD09-37□S** | 22.23 | 13.2 | 17.6 | 21.95 | 27.2 | 54 | 47.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 83.3 |
| ø3/8 | 1/4 | **KQ2ZD11-35□S** | 22.23 | 15.4 | 20.6 | 23.6 | 24.4 | 56.3 | 51.9 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 71.1 |
| | 3/8 | **KQ2ZD11-36□S** | 22.23 | 15.4 | 20.6 | 23.6 | 24.8 | 56.7 | 52 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 73.2 |
| | 1/2 | **KQ2ZD11-37□S** | 22.23 | 15.4 | 20.6 | 23.6 | 28.7 | 60.6 | 54.2 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 93.3 |
| ø1/2 | 3/8 | **KQ2ZD13-36□S** | 25.4 | 19.3 | 27 | 27.9 | 29.6 | 64.4 | 59.7 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 137.2 |
| | 1/2 | **KQ2ZD13-37□S** | 25.4 | 19.3 | 27 | 27.9 | 32.8 | 67.6 | 61.2 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 155 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of NPT thread



## Dimensions

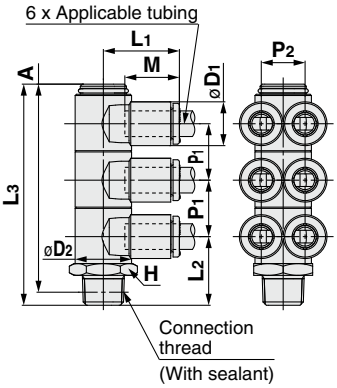
### Triple Branch Universal Male Elbow: KQ2ZT (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A *2 | M | $P_1$ | $P_2$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2ZT01-34□S | 14.29 | 7.1 | 13.4 | 18.5 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 7.1 | 2.2 | 1.9 | 2.5 | 27.3 |
| ø5/32 | 1/8 | KQ2ZT03-34□S | 14.29 | 8.2 | 13.4 | 18.5 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 8.2 | 2.9 | 2.9 | 3 | 28.2 |
| ø3/16 | 1/8 | KQ2ZT05-34□S | 14.29 | 9.1 | 13.4 | 18.4 | 16.3 | 52.5 | 49.3 | 13.3 | 13.4 | 9.1 | 4.5 | 3.7 | 3.5 | 29 |
| ø1/4 | 1/8 | KQ2ZT07-34□S | 14.29 | 11.1 | 13.4 | 18.3 | 17.7 | 54.6 | 51.4 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 33.1 |
| | 1/4 | KQ2ZT07-35□S | 14.29 | 11.1 | 13.4 | 18.3 | 21.1 | 58 | 53.6 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 40 |
| | 3/8 | KQ2ZT07-36□S | 17.46 | 11.1 | 13.4 | 18.3 | 22.5 | 59.4 | 54.7 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 52.4 |
| ø5/16 | 1/4 | KQ2ZT09-35□S | 17.46 | 13.2 | 17.6 | 21.2 | 22.4 | 65.2 | 60.8 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 60.9 |
| | 3/8 | KQ2ZT09-36□S | 19 | 13.2 | 17.6 | 21.2 | 23 | 65.8 | 61.1 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 70.8 |
| | 1/2 | KQ2ZT09-37□S | 22.23 | 13.2 | 17.6 | 21.2 | 27.2 | 70 | 63.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 97.3 |
| ø3/8 | 1/4 | KQ2ZT11-35□S | 22.23 | 15.4 | 20.6 | 23.6 | 24.4 | 75.6 | 71.2 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 100.2 |
| | 3/8 | KQ2ZT11-36□S | 22.23 | 15.4 | 20.6 | 23.6 | 24.8 | 76 | 71.3 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 100.2 |
| | 1/2 | KQ2ZT11-37□S | 22.23 | 15.4 | 20.6 | 23.6 | 28.7 | 79.9 | 73.5 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 100.2 |
| ø1/2 | 3/8 | KQ2ZT13-36□S | 25.4 | 19.3 | 27 | 27.9 | 29.6 | 86.8 | 82.1 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 182.3 |
| | 1/2 | KQ2ZT13-37□S | 25.4 | 19.3 | 27 | 27.9 | 32.8 | 90 | 83.6 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 200 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 ø$D_1$ is maximum diameter.
∗2 Reference dimensions after installation of NPT thread



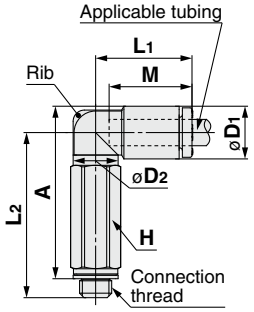

### Extended Male Elbow: KQ2W (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | KQ2W01-32□ | 7 | 7.1 | 7 | 15.3 | 25.8 | 26.4 | 13.3 | 2.8 | 2.4 | 2.5 | 5.9 | ● |
| ø5/32 | 10-32UNF | KQ2W03-32□ | 7 | 8.2 | 7 | 15.4 | 26.3 | 27.5 | 13.3 | 3 | 3 | 2.5 | 6 | ● |
| ø1/4 | 10-32UNF | KQ2W07-32□ | 7 | 11.1 | 7 | 15.4 | 27.6 | 30.2 | 13.3 | 3.5 | 3.5 | 2.5 | 6.4 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 ø$D_1$ is maximum diameter.



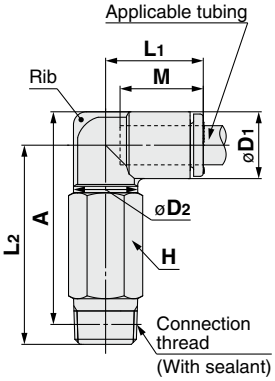

### Extended Male Elbow: KQ2W (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A *2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2W01-33□S | 11.11 | 7.1 | 10 | 14.5 | 35.9 | 35.4 | 13.3 | 2.8 | 2.4 | 2.5 | 16.6 | — |
| | 1/8 | KQ2W01-34□S | 11.11 | 7.1 | 10 | 14.5 | 30.3 | 30.7 | 13.3 | 2.8 | 2.4 | 2.5 | 13.9 | — |
| | 1/4 | KQ2W01-35□S | 14.29 | 7.1 | 10 | 14.5 | 32.7 | 31.9 | 13.3 | 2.8 | 2.4 | 2.5 | 27.3 | — |
| ø5/32 | 1/16 | KQ2W03-33□S | 11.11 | 8.2 | 10 | 14.8 | 35.4 | 35.4 | 13.3 | 4 | 4 | 3 | 16.7 | ● |
| | 1/8 | KQ2W03-34□S | 11.11 | 8.2 | 10 | 14.8 | 29.9 | 30.8 | 13.3 | 4 | 4 | 3 | 14.1 | ● |
| | 1/4 | KQ2W03-35□S | 14.29 | 8.2 | 10 | 14.8 | 33.2 | 32.9 | 13.3 | 4 | 4 | 3 | 27.5 | ● |
| ø3/16 | 1/8 | KQ2W05-34□S | 11.11 | 9.1 | 10 | 15 | 30.4 | 31.7 | 13.3 | 6.8 | 5.6 | 3.5 | 14.3 | — |
| | 1/4 | KQ2W05-35□S | 14.29 | 9.1 | 10 | 15 | 33.7 | 33.9 | 13.3 | 6.8 | 5.6 | 3.5 | 27.7 | — |
| ø1/4 | 1/16 | KQ2W07-33□S | 11.11 | 11.1 | 10 | 15.6 | 36.9 | 38.4 | 13.3 | 6.8 | 6.8 | 3.5 | 17.3 | ● |
| | 1/8 | KQ2W07-34□S | 11.11 | 11.1 | 10 | 15.6 | 31.4 | 33.7 | 13.3 | 11.3 | 10 | 4.5 | 14.6 | ● |
| | 1/4 | KQ2W07-35□S | 14.29 | 11.1 | 10 | 15.6 | 34.7 | 35.9 | 13.3 | 11.3 | 10 | 4.5 | 28 | ● |
| | 3/8 | KQ2W07-36□S | 17.46 | 11.1 | 10 | 15.6 | 36.1 | 37 | 13.3 | 11.3 | 10 | 4.5 | 50.2 | ● |
| ø5/16 | 1/8 | KQ2W09-34□S | 11.11 | 13.2 | 10 | 16.4 | 32.4 | 35.8 | 14.2 | 11.3 | 11.3 | 4.5 | 15.4 | ● |
| | | KQ2W09-34□QS *3 | 12.7 | 13.2 | 12 | 17.2 | 42.4 | 45.8 | 14.2 | 20.5 | 14.2 | 6 | 26.4 | ● |
| | 1/4 | KQ2W09-35□S | 14.29 | 13.2 | 12 | 17.2 | 37.8 | 40 | 14.2 | 20.5 | 14.2 | 6 | 26.5 | ● |
| | 3/8 | KQ2W09-36□S | 17.46 | 13.2 | 12 | 17.2 | 39.2 | 41.1 | 14.2 | 20.5 | 14.2 | 6 | 50 | ● |
| ø3/8 | 1/4 | KQ2W11-35□S | 17.46 | 15.4 | 17 | 19.3 | 48.3 | 51.6 | 15.6 | 28.8 | 23.8 | 7.5 | 54.3 | ● |
| | 3/8 | KQ2W11-36□S | 17.46 | 15.4 | 17 | 19.3 | 45.1 | 48.1 | 15.6 | 28.8 | 23.8 | 7.5 | 37.8 | ● |
| | 1/2 | KQ2W11-37□S | 22.23 | 15.4 | 17 | 19.3 | 49.3 | 50.6 | 15.6 | 28.8 | 23.8 | 7.5 | 86.5 | ● |
| ø1/2 | 1/4 | KQ2W13-35□S | 17.46 | 19.3 | 17 | 21.5 | 50.2 | 55.5 | 17 | 50.3 | 44.4 | 9 | 56.6 | — |
| | 3/8 | KQ2W13-36□S | 17.46 | 19.3 | 17 | 21.8 | 46 | 51 | 17 | 56 | 44.4 | 9.5 | 42.8 | — |
| | 1/2 | KQ2W13-37□S | 22.23 | 19.3 | 17 | 21.8 | 50.2 | 53.5 | 17 | 56 | 44.4 | 9.5 | 95.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 ø$D_1$ is maximum diameter.
∗2 Reference dimensions after installation of NPT thread
∗3 For details, refer to page 156.



## Dimensions

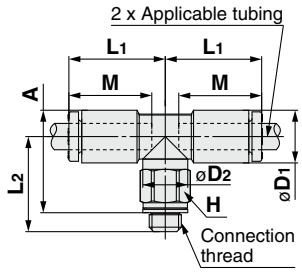
### Male Branch Tee: KQ2T (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2T01-32□** | 7 | 7.1 | 7 | 15.3 | 14.2 | 14.8 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø5/32 | 10-32UNF | **KQ2T03-32□** | 7 | 8.2 | 7 | 15.4 | 14.7 | 15.8 | 13.3 | 4.5 | 4.5 | 2.5 | 3.8 |
| ø1/4 | 10-32UNF | **KQ2T07-32□** | 7 | 11.1 | 7 | 15.4 | 16 | 18.6 | 13.3 | 4.5 | 4.5 | 2.5 | 4.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.




### Male Branch Tee: KQ2T (Sealant)



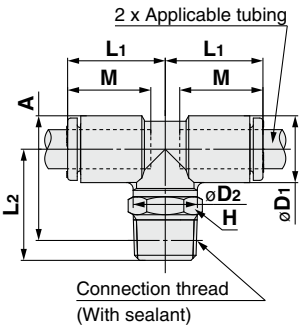
| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2T01-33□S** | 11.11 | 7.1 | 10 | 14.5 | 24.2 | 23.7 | 13.3 | 3.4 | 2.9 | 2.5 | 9.7 |
| | 1/8 | **KQ2T01-34□S** | 11.11 | 7.1 | 10 | 14.5 | 16.6 | 17 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | **KQ2T01-35□S** | 14.29 | 7.1 | 10 | 14.5 | 21 | 20.2 | 13.3 | 3.4 | 2.9 | 2.5 | 15.6 |
| ø5/32 | 1/16 | **KQ2T03-33□S** | 11.11 | 8.2 | 10 | 14.8 | 23.8 | 23.8 | 13.3 | 6 | 4.1 | 3 | 10 |
| | 1/8 | **KQ2T03-34□S** | 11.11 | 8.2 | 10 | 14.8 | 16.2 | 17.1 | 13.3 | 6 | 4.1 | 3 | 6.3 |
| | 1/4 | **KQ2T03-35□S** | 14.29 | 8.2 | 10 | 14.8 | 21.6 | 21.3 | 13.3 | 6 | 4.1 | 3 | 15.9 |
| ø3/16 | 1/8 | **KQ2T05-34□S** | 11.11 | 9.1 | 10 | 15 | 16.7 | 18 | 13.3 | 8.4 | 7 | 3.5 | 6.6 |
| | 1/4 | **KQ2T05-35□S** | 14.29 | 9.1 | 10 | 15 | 22.1 | 22.2 | 13.3 | 8.4 | 7 | 3.5 | 16.2 |
| ø1/4 | 1/16 | **KQ2T07-33□S** | 11.11 | 11.1 | 10 | 15.6 | 25.3 | 26.8 | 13.3 | 8.5 | 8.5 | 3.5 | 11 |
| | 1/8 | **KQ2T07-34□S** | 11.11 | 11.1 | 10 | 15.6 | 17.7 | 20 | 13.3 | 14 | 12.4 | 4.5 | 7.3 |
| | 1/4 | **KQ2T07-35□S** | 14.29 | 11.1 | 10 | 15.6 | 23.1 | 24.2 | 13.3 | 14 | 12.4 | 4.5 | 16.9 |
| | 3/8 | **KQ2T07-36□S** | 17.46 | 11.1 | 10 | 15.6 | 24.5 | 25.3 | 13.3 | 14 | 12.4 | 4.5 | 29.2 |
| ø5/16 | 1/8 | **KQ2T09-34□S** | 11.11 | 13.2 | 10 | 16.4 | 18.7 | 22.1 | 14.2 | 14 | 14 | 4.5 | 8.7 |
| | | **KQ2T09-34□QS** *3 | 12.7 | 13.2 | 12 | 17.2 | 23.5 | 26.9 | 14.2 | 26.3 | 18.2 | 6 | 11.7 |
| | 1/4 | **KQ2T09-35□S** | 14.29 | 13.2 | 12 | 17.2 | 24.1 | 26.3 | 14.2 | 26.3 | 18.2 | 6 | 15.9 |
| | 3/8 | **KQ2T09-36□S** | 17.46 | 13.2 | 12 | 17.2 | 25.5 | 27.4 | 14.2 | 26.3 | 18.2 | 6 | 27.9 |
| ø3/8 | 1/8 | **KQ2T11-34□S** | 12.7 | 15.4 | 12 | 18.6 | 23.1 | 27.6 | 15.6 | 21.2 | 21.2 | 6 | 14.4 |
| | 1/4 | **KQ2T11-35□S** | 17.46 | 15.4 | 17 | 19.3 | 28.5 | 31.8 | 15.6 | 28.8 | 23.8 | 7.5 | 24.1 |
| | 3/8 | **KQ2T11-36□S** | 17.46 | 15.4 | 17 | 19.3 | 29.1 | 32.1 | 15.6 | 28.8 | 23.8 | 7.5 | 22.2 |
| | 1/2 | **KQ2T11-37□S** | 22.23 | 15.4 | 17 | 19.3 | 33.3 | 34.6 | 15.6 | 28.8 | 23.8 | 7.5 | 48.7 |
| ø1/2 | 1/4 | **KQ2T13-35□S** | 17.46 | 19.3 | 17 | 21.5 | 30.4 | 35.7 | 17 | 57.3 | 50.6 | 9 | 28.1 |
| | 3/8 | **KQ2T13-36□S** | 17.46 | 19.3 | 17 | 21.8 | 26.2 | 31.2 | 17 | 63.8 | 50.6 | 9.5 | 24.4 |
| | 1/2 | **KQ2T13-37□S** | 22.23 | 19.3 | 17 | 21.8 | 30.4 | 33.7 | 17 | 63.8 | 50.6 | 9.5 | 50.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.

*2 Reference dimensions after installation of NPT thread

*3 For details, refer to page 156.



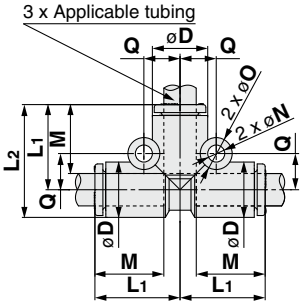
## Dimensions

### Union Tee: KQ2T



| Applicable tubing O.D. [inch] | Model | *1 øD | L1 | L2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2T01-00A** | 7.1 | 14.9 | 18.5 | 13.3 | 5.4 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 2.3 |
| ø5/32 | **KQ2T03-00A** | 8.2 | 15.3 | 19.4 | 13.3 | 5.7 | 6 | 3.2 | 6.4 | 4.4 | 3 | 2.8 |
| ø3/16 | **KQ2T05-00A** | 9.1 | 15.7 | 20.3 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 3.5 | 3.2 |
| ø1/4 | **KQ2T07-00A** | 11.1 | 16.5 | 22.1 | 13.3 | 7.2 | 6 | 3.2 | 14.4 | 12.4 | 4.6 | 4.3 |
| ø5/16 | **KQ2T09-00A** | 13.2 | 18.2 | 24.8 | 14.2 | 8.4 | 8 | 4.2 | 25.6 | 17.7 | 6 | 7 |
| ø3/8 | **KQ2T11-00A** | 15.4 | 20.4 | 28.1 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 7 | 10.2 |
| ø1/2 | **KQ2T13-00A** | 19.3 | 23.4 | 33 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 9.6 | 16.9 |

∗1 øD is maximum diameter.

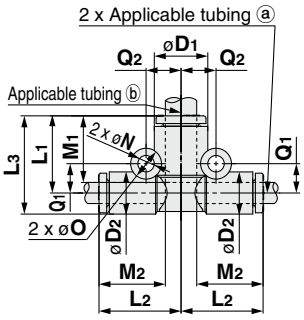



### Different Diameter Tee: KQ2T



| Applicable tubing O.D. [inch] ⓐ | Applicable tubing O.D. [inch] ⓑ | Model | *1 øD1 | øD2 | L1 | L2 | L3 | M1 | M2 | Q1 | Q2 | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2T01-03A** | 8.2 | 7.1 | 14.9 | 15.3 | 18.5 | 13.3 | 13.3 | 5.4 | 5.8 | 6 | 3.2 | 3.8 | 3.5 | 3 | 2.6 |
| | ø1/4 | **KQ2T01-07A** | 11.1 | 7.1 | 14.9 | 16.5 | 18.5 | 13.3 | 13.3 | 5.3 | 7.2 | 6 | 3.2 | 3.8 | 3.5 | 3.2 | 2.8 |
| ø5/32 | ø3/16 | **KQ2T03-05A** | 9.1 | 8.2 | 15.3 | 15.7 | 19.4 | 13.3 | 13.3 | 5.7 | 6.2 | 6 | 3.2 | 7.1 | 6.6 | 3.5 | 2.6 |
| | ø1/4 | **KQ2T03-07A** | 11.1 | 8.2 | 15.3 | 16.5 | 19.4 | 13.3 | 13.3 | 5.7 | 7.2 | 6 | 3.2 | 7.1 | 6.6 | 4.1 | 3 |
| ø3/16 | ø1/4 | **KQ2T05-07A** | 11.1 | 9.1 | 15.7 | 16.5 | 20.3 | 13.3 | 13.3 | 6.2 | 7.2 | 6 | 3.2 | 8.4 | 7 | 4.6 | 3.7 |
| ø1/4 | ø5/16 | **KQ2T07-09A** | 13.2 | 11.1 | 17.4 | 17.3 | 23 | 14.2 | 13.3 | 7.4 | 8.4 | 8 | 4.2 | 14.4 | 12.4 | 6 | 5.6 |
| | ø3/8 | **KQ2T07-11A** | 15.4 | 11.1 | 18.8 | 18.1 | 24.4 | 15.6 | 13.3 | 7.7 | 9.9 | 8 | 4.2 | 14.4 | 12.4 | 6.4 | 6.8 |
| ø5/16 | ø3/8 | **KQ2T09-11A** | 15.4 | 13.2 | 19.6 | 19 | 26.2 | 15.6 | 14.2 | 8.7 | 9.9 | 8 | 4.2 | 26.3 | 18.3 | 7 | 8.2 |
| | ø1/2 | **KQ2T09-13A** | 19.3 | 13.2 | 21 | 20.6 | 27.6 | 17 | 14.2 | 8.7 | 11.8 | 8 | 4.2 | 26.3 | 18.3 | 8.1 | 10.6 |
| ø3/8 | ø1/2 | **KQ2T11-13A** | 19.3 | 15.4 | 21.8 | 22 | 29.5 | 17 | 15.6 | 9.9 | 11.8 | 8 | 4.2 | 28.8 | 23.8 | 9.6 | 12.4 |

∗1 øD1 is maximum diameter.

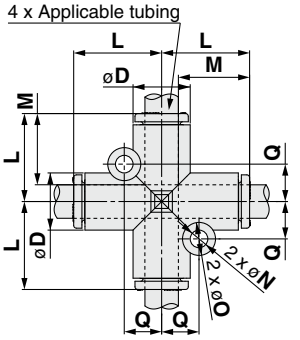



### Cross: KQ2TW



| Applicable tubing O.D. [inch] | Model | *1 øD1 | L | Q | M | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | **KQ2TW03-00A** | 8.2 | 15.3 | 5.7 | 13.3 | 6 | 3.2 | 6.4 | 4.4 | 3 | 3.5 |
| ø1/4 | **KQ2TW07-00A** | 11.1 | 16.5 | 7.2 | 13.3 | 6 | 3.2 | 14.4 | 12.4 | 4.6 | 5.4 |
| ø5/16 | **KQ2TW09-00A** | 13.2 | 18.2 | 8.4 | 14.2 | 8 | 4.2 | 25.6 | 17.7 | 6 | 8.5 |
| ø3/8 | **KQ2TW11-00A** | 15.4 | 20.4 | 9.9 | 15.6 | 8 | 4.2 | 28.8 | 23.8 | 7 | 12 |
| ø1/2 | **KQ2TW13-00A** | 19.3 | 23.4 | 11.8 | 17 | 8 | 4.2 | 64.6 | 50.6 | 9.6 | 19.7 |

∗1 øD is maximum diameter.



## Dimensions

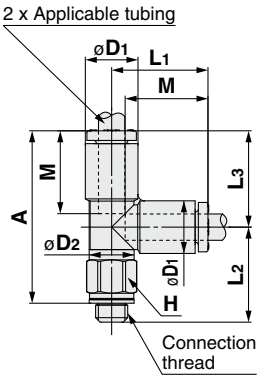
### Male Run Tee: KQ2Y (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2Y01-32□** | 7 | 7.1 | 7 | 15.3 | 14.2 | 15.3 | 26.5 | 13.3 | 3.2 | 2.7 | 2.5 | 3.5 |
| ø5/32 | 10-32UNF | **KQ2Y03-32□** | 7 | 8.2 | 7 | 15.4 | 14.7 | 15.4 | 27.1 | 13.3 | 4.5 | 4.5 | 2.5 | 3.8 |
| ø1/4 | 10-32UNF | **KQ2Y07-32□** | 7 | 11.1 | 7 | 16.5 | 16 | 16.5 | 29.5 | 13.3 | 4.5 | 4.5 | 2.5 | 4.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



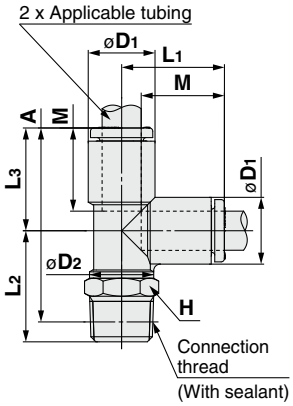

### Male Run Tee: KQ2Y (Sealant)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2Y01-33□S** | 11.11 | 7.1 | 10 | 14.9 | 24.2 | 14.9 | 35.1 | 13.3 | 3.4 | 2.9 | 2.5 | 9.8 |
| | 1/8 | **KQ2Y01-34□S** | 11.11 | 7.1 | 10 | 14.9 | 16.6 | 14.9 | 28.4 | 13.3 | 3.4 | 2.9 | 2.5 | 6.1 |
| | 1/4 | **KQ2Y01-35□S** | 14.29 | 7.1 | 10 | 14.9 | 21 | 14.9 | 31.6 | 13.3 | 3.4 | 2.9 | 2.5 | 15.6 |
| ø5/32 | 1/16 | **KQ2Y03-33□S** | 11.11 | 8.2 | 10 | 15.3 | 23.8 | 15.3 | 35 | 13.3 | 6.4 | 4.4 | 3 | 10.1 |
| | 1/8 | **KQ2Y03-34□S** | 11.11 | 8.2 | 10 | 15.3 | 16.2 | 15.3 | 28.3 | 13.3 | 6.4 | 4.4 | 3 | 6.4 |
| | 1/4 | **KQ2Y03-35□S** | 14.29 | 8.2 | 10 | 15.3 | 21.6 | 15.3 | 32.5 | 13.3 | 6.4 | 4.4 | 3 | 15.9 |
| ø3/16 | 1/8 | **KQ2Y05-34□S** | 11.11 | 9.1 | 10 | 15.7 | 16.7 | 15.7 | 29.2 | 13.3 | 8.4 | 7 | 3.5 | 6.7 |
| | 1/4 | **KQ2Y05-35□S** | 14.29 | 9.1 | 10 | 15.7 | 22.1 | 15.7 | 33.4 | 13.3 | 8.4 | 7 | 3.5 | 16.3 |
| ø1/4 | 1/16 | **KQ2Y07-33□S** | 11.11 | 11.1 | 10 | 16.5 | 25.3 | 16.5 | 37.7 | 13.3 | 8.5 | 8.5 | 3.5 | 11 |
| | 1/8 | **KQ2Y07-34□S** | 11.11 | 11.1 | 10 | 16.5 | 17.7 | 16.5 | 31 | 13.3 | 14 | 12.4 | 4.5 | 7.3 |
| | 1/4 | **KQ2Y07-35□S** | 14.29 | 11.1 | 10 | 16.5 | 23.1 | 16.5 | 35.2 | 13.3 | 14 | 12.4 | 4.5 | 16.9 |
| | 3/8 | **KQ2Y07-36□S** | 17.46 | 11.1 | 10 | 16.5 | 24.5 | 16.5 | 36.3 | 13.3 | 14 | 12.4 | 4.5 | 29.2 |
| ø5/16 | 1/8 | **KQ2Y09-34□S** | 11.11 | 13.2 | 10 | 18.2 | 18.7 | 18.2 | 33.7 | 14.2 | 14 | 14 | 4.5 | 8.8 |
| | | **KQ2Y09-34□QS** *3 | 12.7 | 13.2 | 12 | 18.2 | 23.5 | 18.2 | 38.6 | 14.2 | 25.6 | 17.7 | 6 | 11.7 |
| | 1/4 | **KQ2Y09-35□S** | 14.29 | 13.2 | 12 | 18.2 | 24.1 | 18.2 | 37.9 | 14.2 | 25.6 | 17.7 | 6 | 16 |
| | 3/8 | **KQ2Y09-36□S** | 17.46 | 13.2 | 12 | 18.2 | 25.5 | 18.2 | 39 | 14.2 | 25.6 | 17.7 | 6 | 28 |
| ø3/8 | 1/4 | **KQ2Y11-35□S** | 17.46 | 15.4 | 17 | 20.4 | 28.5 | 20.4 | 44.5 | 15.6 | 28.8 | 23.8 | 7.5 | 24.3 |
| | 3/8 | **KQ2Y11-36□S** | 17.46 | 15.4 | 17 | 20.4 | 29.1 | 20.4 | 44.8 | 15.6 | 28.8 | 23.8 | 7.5 | 22.3 |
| | 1/2 | **KQ2Y11-37□S** | 22.23 | 15.4 | 17 | 20.4 | 33.3 | 20.4 | 47.3 | 15.6 | 28.8 | 23.8 | 7.5 | 48.8 |
| ø1/2 | 1/4 | **KQ2Y13-35□S** | 17.46 | 19.3 | 17 | 23.4 | 30.4 | 23.4 | 49.4 | 17 | 57.3 | 50.6 | 9 | 28.5 |
| | 3/8 | **KQ2Y13-36□S** | 17.46 | 19.3 | 17 | 23.4 | 26.2 | 23.4 | 44.9 | 17 | 63.8 | 50.6 | 9.5 | 24.7 |
| | 1/2 | **KQ2Y13-37□S** | 22.23 | 19.3 | 17 | 23.4 | 30.4 | 23.4 | 47.4 | 17 | 63.8 | 50.6 | 9.5 | 50.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of NPT thread
*3 For details, refer to page 156.



## Dimensions

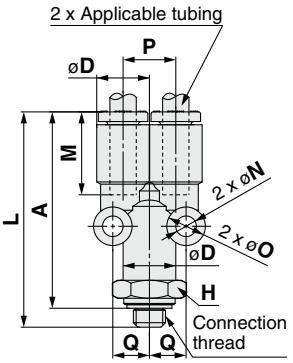
### Branch "Y": KQ2U (Gasket seal)



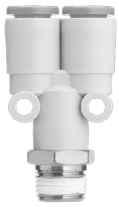
| Applicable tubing O.D. [inch] | Connection thread UNF | Model | H (Width across flats) | *1 øD | L | P | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 10-32UNF | **KQ2U01-32□** | 8 | 7.1 | 33.8 | 7.1 | 30.3 | 13.3 | 5.2 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 5 |
| ø5/32 | 10-32UNF | **KQ2U03-32□** | 10 | 8.2 | 33.9 | 8.2 | 30.4 | 13.3 | 5.7 | 6 | 3.2 | 2.2 | 2.2 | 1.8 | 6.6 |
| ø1/4 | 10-32UNF | **KQ2U07-32□** | 12 | 11.1 | 35.2 | 11.1 | 31.7 | 13.3 | 7.6 | 8 | 4 | 2.2 | 2.2 | 1.8 | 11.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.




### Branch "Y": KQ2U (Sealant)

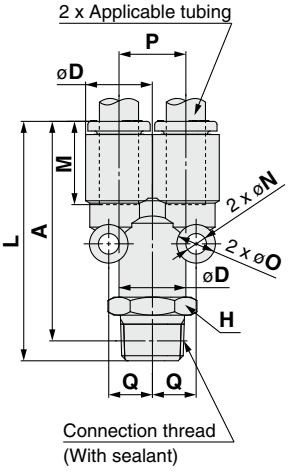


| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | *1 øD | L | P | A*2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2U01-33□S** | 9 | 7.1 | 37.3 | 7.1 | 33.2 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 7.1 |
| | 1/8 | **KQ2U01-34□S** | 11.11 | 7.1 | 36.4 | 7.1 | 33.2 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 9.5 |
| | 1/4 | **KQ2U01-35□S** | 14.29 | 7.1 | 40.8 | 7.1 | 36.4 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 20 |
| ø5/32 | 1/16 | **KQ2U03-33□S** | 9 | 8.2 | 37.4 | 8.2 | 33.3 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 7.3 |
| | 1/8 | **KQ2U03-34□S** | 11.11 | 8.2 | 36.5 | 8.2 | 33.3 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 9.8 |
| | 1/4 | **KQ2U03-35□S** | 14.29 | 8.2 | 40.9 | 8.2 | 36.5 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 20.1 |
| ø3/16 | 1/8 | **KQ2U05-34□S** | 11.11 | 9.1 | 37.1 | 9.1 | 33.9 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 4.1 | 10.2 |
| | 1/4 | **KQ2U05-35□S** | 14.29 | 9.1 | 41.5 | 9.1 | 37.1 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 4.1 | 20.5 |
| ø1/4 | 1/16 | **KQ2U07-33□S** | 12.7 | 11.1 | 38.7 | 11.1 | 34.6 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 4.6 | 11.6 |
| | 1/8 | **KQ2U07-34□S** | 12.7 | 11.1 | 37.8 | 11.1 | 34.6 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 12 |
| | 1/4 | **KQ2U07-35□S** | 14.29 | 11.1 | 42.2 | 11.1 | 37.8 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 21.1 |
| | 3/8 | **KQ2U07-36□S** | 17.46 | 11.1 | 43.6 | 11.1 | 38.9 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 33.5 |
| ø5/16 | 1/8 | **KQ2U09-34□S** | 14.29 | 13.2 | 40.7 | 13.2 | 37.5 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 16.4 |
| | 1/4 | **KQ2U09-35□S** | 14.29 | 13.2 | 45.1 | 13.2 | 40.7 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 21.9 |
| | 3/8 | **KQ2U09-36□S** | 17.46 | 13.2 | 46.5 | 13.2 | 41.8 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 34.1 |
| ø3/8 | 1/4 | **KQ2U11-35□S** | 17.46 | 15.4 | 48.6 | 15.4 | 44.2 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 25.7 |
| | 3/8 | **KQ2U11-36□S** | 17.46 | 15.4 | 50 | 15.4 | 45.3 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 35 |
| | 1/2 | **KQ2U11-37□S** | 22.23 | 15.4 | 54.2 | 15.4 | 47.8 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 62.8 |
| ø1/2 | 1/4 | **KQ2U13-35□S** | 22 | 19.3 | 53.4 | 19.3 | 49 | 17 | 11.8 | 8 | 4.2 | 57.3 | 50.6 | 9 | 42 |
| | 3/8 | **KQ2U13-36□S** | 22 | 19.3 | 54.8 | 19.3 | 50.1 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 11 | 45.8 |
| | 1/2 | **KQ2U13-37□S** | 22.23 | 19.3 | 59 | 19.3 | 52.6 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 12.1 | 62.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.

*2 Reference dimensions after installation of NPT thread



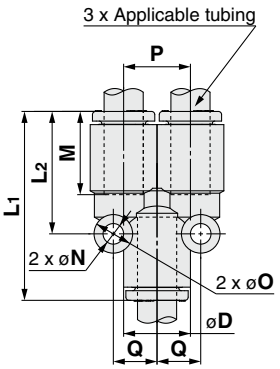
## Dimensions

### Union "Y": KQ2U

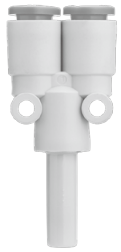


| Applicable tubing O.D. [inch] | Model | *1 øD | L1 | L2 | P | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2U01-00A** | 7.1 | 28.9 | 18 | 7.1 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 3.2 | 2.4 |
| ø5/32 | **KQ2U03-00A** | 8.2 | 29 | 18.2 | 8.2 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 4.1 | 2.9 |
| ø3/16 | **KQ2U05-00A** | 9.1 | 29.6 | 18.9 | 9.1 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 4.8 | 3.5 |
| ø1/4 | **KQ2U07-00A** | 11.1 | 30.3 | 20.2 | 11.1 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 6.4 | 5 |
| ø5/16 | **KQ2U09-00A** | 13.2 | 33.2 | 22.3 | 13.2 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 8.1 | 7.4 |
| ø3/8 | **KQ2U11-00A** | 15.4 | 36.7 | 24.6 | 15.4 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 9.6 | 10.4 |

*1 øD is maximum diameter.

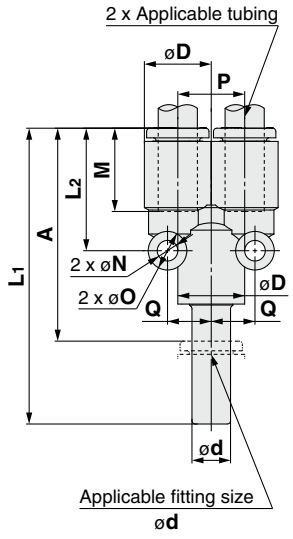



### Plug-in "Y": KQ2U



| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | *1 øD | L1 | L2 | P | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø1/8 | **KQ2U01-99A** | 7.1 | 45.1 | 18 | 7.1 | 31.8 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2 | 2.5 |
| ø5/32 | ø5/32 | **KQ2U03-99A** | 8.2 | 44.8 | 18.2 | 8.2 | 31.5 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 2.5 | 3.1 |
| ø3/16 | ø3/16 | **KQ2U05-99A** | 9.1 | 46.1 | 18.9 | 9.1 | 32.8 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 3.5 | 3.6 |
| ø1/4 | ø1/4 | **KQ2U07-99A** | 11.1 | 46.8 | 20.2 | 11.1 | 33.5 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 4.6 | 5.5 |
| ø5/16 | ø5/16 | **KQ2U09-99A** | 13.2 | 52.1 | 22.3 | 13.2 | 37.9 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 8 |

*1 øD is maximum diameter.

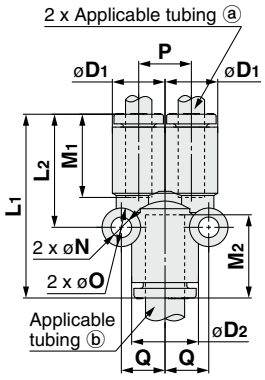



### Different Diameter Union "Y": KQ2U



| Applicable tubing O.D. [inch] ⓐ | Applicable tubing O.D. [inch] ⓑ | Model | *1 øD1 | *1 øD2 | L1 | L2 | P | M1 | M2 | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2U01-03A** | 7.1 | 8.2 | 28.9 | 18 | 7.1 | 13.3 | 13.3 | 5.7 | 6 | 3.2 | 3.2 | 2.7 | 3.3 | 2.7 |
| | ø1/4 | **KQ2U01-07A** | 7.1 | 11.1 | 30.3 | 18.5 | 7.1 | 13.3 | 13.3 | 7.2 | 6 | 3.2 | 3.2 | 2.7 | 3.3 | 3.3 |
| ø5/32 | ø3/16 | **KQ2U03-05A** | 8.2 | 9.1 | 29.6 | 18.8 | 8.2 | 13.3 | 13.3 | 6.2 | 6 | 3.2 | 4.2 | 4.2 | 4.1 | 3.2 |
| | ø1/4 | **KQ2U03-07A** | 8.2 | 11.1 | 30.3 | 19 | 8.2 | 13.3 | 13.3 | 7.2 | 6 | 3.2 | 4.2 | 4.2 | 4.1 | 3.6 |
| ø3/16 | ø1/4 | **KQ2U05-07A** | 9.1 | 11.1 | 30.6 | 19.8 | 9.1 | 13.3 | 13.3 | 7.2 | 6 | 3.2 | 8.4 | 7 | 4.8 | 3.9 |
| ø1/4 | ø5/16 | **KQ2U07-09A** | 11.1 | 13.2 | 32.3 | 21.3 | 11.1 | 13.3 | 14.2 | 8.6 | 8 | 4 | 14.4 | 12.4 | 6.4 | 6 |
| | ø3/8 | **KQ2U07-11A** | 11.1 | 15.4 | 34.4 | 21.7 | 11.1 | 13.3 | 15.6 | 9.8 | 8 | 4 | 14.4 | 12.4 | 6.4 | 7.2 |
| ø5/16 | ø3/8 | **KQ2U09-11A** | 13.2 | 15.4 | 35.3 | 23 | 13.2 | 14.2 | 15.6 | 9.9 | 8 | 4.2 | 26.3 | 18.3 | 8.1 | 8.5 |
| | ø1/2 | **KQ2U09-13A** | 13.2 | 19.3 | 38.7 | 24.2 | 13.2 | 14.2 | 17 | 11.8 | 8 | 4.2 | 26.3 | 18.3 | 8.1 | 11.2 |
| ø3/8 | ø1/2 | **KQ2U11-13A** | 15.4 | 19.3 | 40.1 | 26.6 | 15.4 | 15.6 | 17 | 11.8 | 8 | 4.2 | 28.8 | 23.8 | 9.6 | 13 |

*1 øD1, øD2 are maximum diameters.



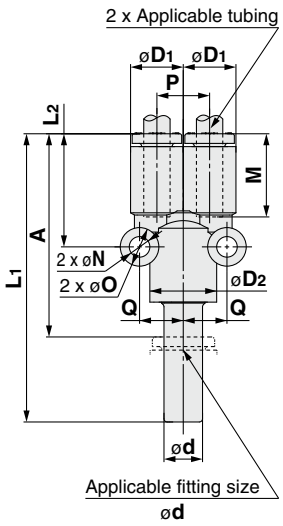
## Dimensions

### Different Diameter Plug-in "Y": KQ2X



| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | *1 øD1 | *1 øD2 | L1 | L2 | A | P | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2X01-03A** | 7.1 | 8.2 | 44.7 | 18 | 42.2 | 7.1 | 13.3 | 5.7 | 6 | 3.2 | 3.2 | 2.7 | 2.5 | 2.8 |
| ø5/32 | ø3/16 | **KQ2X03-05A** | 8.2 | 9.1 | 46.1 | 18.8 | 42.6 | 8.2 | 13.3 | 6.2 | 6 | 3.2 | 3.4 | 2.9 | 3.5 | 3.3 |
| | ø1/4 | **KQ2X03-07A** | 8.2 | 11.1 | 46.8 | 19 | 42.2 | 8.2 | 13.3 | 7.2 | 6 | 3.2 | 3.4 | 2.9 | 4.1 | 4 |
| ø3/16 | ø1/4 | **KQ2X05-07A** | 9.1 | 11.1 | 47.1 | 19.8 | 42.5 | 9.1 | 13.3 | 7.2 | 6 | 3.2 | 8.4 | 7 | 4.6 | 4.4 |
| ø1/4 | ø5/16 | **KQ2X07-09A** | 11.1 | 13.2 | 51.2 | 21.3 | 45.2 | 11.1 | 13.3 | 8.6 | 8 | 4 | 14.4 | 12.4 | 6 | 6.5 |

*1 øD1, øD2 are maximum diameters.

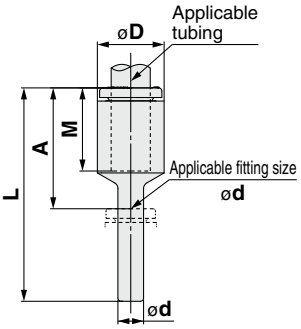



### Plug-in Reducer: KQ2R

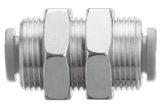


| Applicable tubing O.D. [inch] | Applicable fitting size ød [inch] | Model | øD*1 | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2R01-03A** | 7.1 | 28.6 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø3/16 | **KQ2R01-05A** | 7.1 | 28.7 | 15.4 | 13.3 | 3.4 | 2.9 | 2.5 | 0.8 |
| | ø1/4 | **KQ2R01-07A** | 7.1 | 28.4 | 15.1 | 13.3 | 3.4 | 2.9 | 2.5 | 1 |
| ø5/32 | ø3/16 | **KQ2R03-05A** | 8.2 | 28.7 | 15.4 | 13.3 | 5.6 | 4 | 3 | 1 |
| | ø1/4 | **KQ2R03-07A** | 8.2 | 31.8 | 18.5 | 13.3 | 5.6 | 4 | 3 | 1.2 |
| ø3/16 | ø1/4 | **KQ2R05-07A** | 9.1 | 31.4 | 18.1 | 13.3 | 7.8 | 6.5 | 3.5 | 1.3 |
| | ø5/16 | **KQ2R05-09A** | 9.1 | 33.4 | 19.2 | 13.3 | 7.8 | 6.5 | 3.5 | 1.5 |
| ø1/4 | ø5/16 | **KQ2R07-09A** | 11.1 | 33.3 | 19.1 | 13.3 | 13.5 | 11.5 | 4.6 | 1.7 |
| | ø3/8 | **KQ2R07-11A** | 11.1 | 35.9 | 20.3 | 13.3 | 13.5 | 11.5 | 4.6 | 2.2 |
| ø5/16 | ø3/8 | **KQ2R09-11A** | 13.2 | 36.2 | 20.6 | 14.2 | 26 | 18.1 | 6 | 2.8 |
| | ø1/2 | **KQ2R09-13A** | 13.2 | 37.2 | 20.2 | 14.2 | 26 | 18.1 | 6 | 3.5 |
| ø3/8 | ø1/2 | **KQ2R11-13A** | 15.4 | 39.5 | 22.5 | 15.6 | 35.3 | 29.1 | 7 | 4.2 |

*1 øD is maximum diameter.

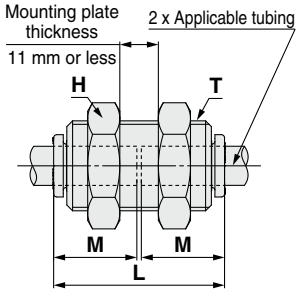



### Bulkhead Union: KQ2E (Interchangeable with KQ)



| Applicable tubing O.D. [inch] | Model | T (UNF) | H (Width across flats) | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2E01-00□** | 1/2-20UNF | 17.46 | 27.8 | 13.5 | 13.3 | 3.4 | 2.9 | 2.5 | 26.9 |
| ø5/32 | **KQ2E03-00□** | 1/2-20UNF | 17.46 | 27.8 | 13.5 | 13.3 | 5.6 | 4 | 3 | 25.7 |
| ø3/16 | **KQ2E05-00□** | 9/16-18UNF | 17.46 | 29.8 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 40.3 |
| ø1/4 | **KQ2E07-00□** | 9/16-18UNF | 17.46 | 29.8 | 15 | 13.3 | 13.5 | 11.5 | 4.6 | 36.9 |
| ø5/16 | **KQ2E09-00□** | 3/4-16UNF | 22.23 | 31.8 | 20 | 14.2 | 26.1 | 18 | 6 | 61.2 |
| ø3/8 | **KQ2E11-00□** | 7/8-14UNF | 25.4 | 33.8 | 23 | 15.6 | 35.3 | 29.1 | 7 | 83.4 |
| ø1/2 | **KQ2E13-00□** | 1-12UNF | 28.57 | 37.8 | 26 | 17 | 66 | 51.7 | 9.6 | 109.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

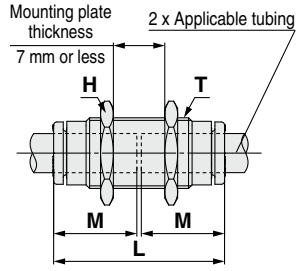



### Bulkhead Union: KQ2E (Interchangeable with KJ)



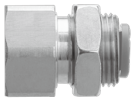
| Applicable tubing O.D. [inch] | Model | T (UNF) | H (Width across flats) | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2E01-00□J** | 3/8-24UNF | 12.7 | 27.3 | 10.5 | 13.3 | 3 | 2.5 | 2.5 | 12.6 |
| ø5/32 | **KQ2E03-00□J** | 3/8-24UNF | 12.7 | 27.3 | 10.5 | 13.3 | 4 | 4 | 3 | 11.9 |
| ø1/4 | **KQ2E07-00□J** | 1/2-20UNF | 15.88 | 27.3 | 14 | 13.3 | 13.5 | 11.5 | 4.6 | 19.2 |

□: A (Brass), N (Brass + Electroless nickel plating)



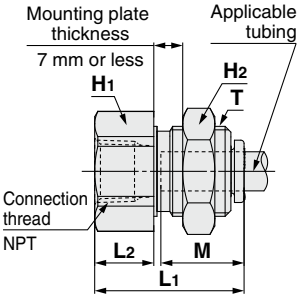
## Dimensions

### Bulkhead Connector: KQ2E



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | T (UNF) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/4 | **KQ2E01-35□** | 1/2-20UNF | 17.46 | 17.46 | 28.7 | 13.3 | 13.5 | 13.3 | 3.4 | 2.9 | 2.5 | 33.3 |
| ø5/32 | 1/4 | **KQ2E03-35□** | 1/2-20UNF | 17.46 | 17.46 | 29 | 13.6 | 13.5 | 13.3 | 5.6 | 4 | 3 | 33.3 |
| ø3/16 | 1/8 | **KQ2E05-34□** | 9/16-18UNF | 17.46 | 17.46 | 25.6 | 9.2 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 36.6 |
| ø1/4 | 1/4 | **KQ2E07-35□** | 9/16-18UNF | 17.46 | 17.46 | 29.9 | 13.5 | 15 | 13.3 | 13.5 | 11.5 | 4.6 | 38.8 |
| ø5/16 | 3/8 | **KQ2E09-36□** | 3/4-16UNF | 22.23 | 22.23 | 31 | 13.6 | 20 | 14.2 | 26.1 | 18 | 6 | 61.8 |
| ø3/8 | 3/8 | **KQ2E11-36□** | 7/8-14UNF | 25.4 | 25.4 | 31.4 | 12 | 23 | 15.6 | 35.3 | 29.1 | 7 | 83.8 |
| ø1/2 | 3/8 | **KQ2E13-36□** | 1-12UNF | 28.57 | 28.57 | 32 | 11.6 | 26 | 17 | 66 | 51.7 | 9.6 | 106.6 |
| | 1/2 | **KQ2E13-37□** | 1-12UNF | 28.57 | 28.57 | 36.1 | 15.7 | 26 | 17 | 66 | 51.7 | 9.6 | 114.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

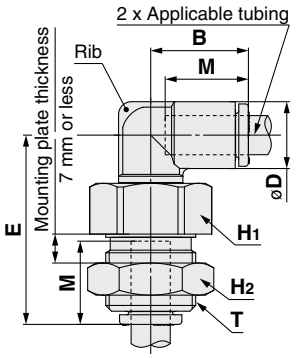



### Bulkhead Male Elbow: KQ2LE



| Applicable tubing O.D. [inch] | Model | T (UNF) | H1 (Width across flats) | H2 (Width across flats) | B | E | *1 øD | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | **KQ2LE01-00□** | 1/2-20UNF | 17.46 | 17.46 | 14.5 | 28.9 | 7.1 | 13.5 | 13.3 | 3 | 2.5 | 2.5 | 27.5 | — |
| ø5/32 | **KQ2LE03-00□** | 1/2-20UNF | 17.46 | 17.46 | 14.8 | 28.5 | 8.2 | 13.5 | 13.3 | 4.2 | 4.2 | 3 | 27.1 | ● |
| ø3/16 | **KQ2LE05-00□** | 9/16-18UNF | 17.46 | 17.46 | 15 | 29.7 | 9.1 | 15 | 13.3 | 6.8 | 5.6 | 3.5 | 34.1 | — |
| ø1/4 | **KQ2LE07-00□** | 9/16-18UNF | 17.46 | 17.46 | 15.6 | 30.7 | 11.1 | 15 | 13.3 | 11.3 | 10 | 4.5 | 32.8 | ● |
| ø5/16 | **KQ2LE09-00□** | 3/4-16UNF | 22.23 | 22.23 | 17.2 | 34.2 | 13.2 | 20 | 14.2 | 21.6 | 14.9 | 6 | 55.6 | ● |
| ø3/8 | **KQ2LE11-00□** | 7/8-14UNF | 25.4 | 25.4 | 19.3 | 32.6 | 15.4 | 23 | 15.6 | 28.8 | 23.8 | 7 | 67.7 | ● |
| ø1/2 | **KQ2LE13-00□** | 1-12UNF | 28.57 | 28.57 | 21.8 | 43.2 | 19.3 | 26 | 17 | 56 | 44.4 | 9.5 | 121.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)　　*1 øD is maximum diameter.

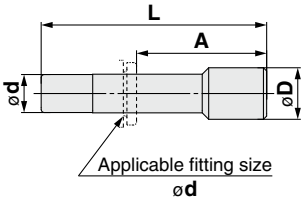



### Plug: KQ2P



| Applicable fitting size ød [inch] | Model | øD*1 | L | A | Weight [g] |
|---|---|---|---|---|---|
| ø1/8 | **KQ2P-01** | 5 | 31.5 | 18.2 | 1 |
| ø5/32 | **KQ2P-03** | 6 | 32 | 18.7 | 1 |
| ø3/16 | **KQ2P-05** | 6.8 | 34 | 20.7 | 1 |
| ø1/4 | **KQ2P-07** | 8.5 | 35 | 21.7 | 1 |
| ø5/16 | **KQ2P-09** | 10 | 39 | 24.8 | 2 |
| ø3/8 | **KQ2P-11** | 11.5 | 43 | 27.4 | 3.5 |
| ø1/2 | **KQ2P-13** | 15 | 45.5 | 28.5 | 5 |

*1 øD is maximum diameter.



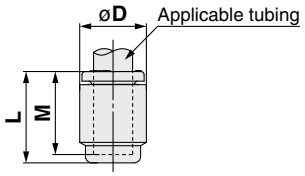
## Dimensions

### Tube Cap: KQ2C



| Applicable tubing O.D. [inch] | Model | ø**D**∗1 | **L** | **M** | Weight [g] |
|---|---|---|---|---|---|
| ø5/32 | **KQ2C03-00A** | 8.2 | 14.5 | 13.3 | 0.8 |
| ø1/4 | **KQ2C07-00A** | 11.1 | 14.8 | 13.3 | 1.3 |
| ø5/16 | **KQ2C09-00A** | 13.2 | 15.7 | 14.2 | 2 |
| ø3/8 | **KQ2C11-00A** | 15.4 | 17.3 | 15.6 | 2.8 |

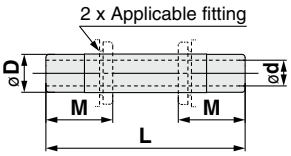
∗1 øD is maximum diameter.




### Nipple: KQ2N



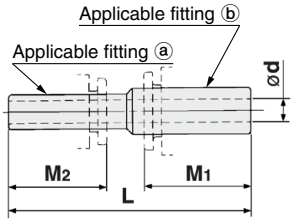
| Applicable fitting ø**D** | Model | **L** | **M** | ø**d** Min. port size | Weight [g] |
|---|---|---|---|---|---|
| ø1/8 | **KQ2N01-99** | 36 | 13.3 | 2.1 | 0.2 |
| ø3/16 | **KQ2N05-99** | 38 | 13.3 | 3.4 | 0.4 |
| ø1/4 | **KQ2N07-99** | 39 | 13.3 | 4.6 | 1 |
| ø3/8 | **KQ2N11-99** | 49 | 15.6 | 7 | 2 |
| ø1/2 | **KQ2N13-99** | 51 | 17 | 9.5 | 3.5 |



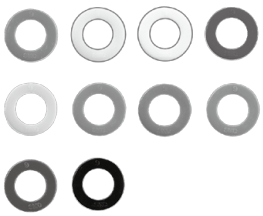

### Reducer Nipple: KQ2N



| Applicable fitting ⓐ | Applicable fitting ⓑ | Model | **L** | **M1** | **M2** | ø**d** Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|
| ø1/8 | ø5/32 | **KQ2N01-03** | 36.5 | 13.3 | 13.3 | 2.1 | 0.2 |
| | ø3/16 | **KQ2N01-05** | 37 | 13.3 | 13.3 | 2.1 | 0.4 |
| ø5/32 | ø3/16 | **KQ2N03-05** | 37.5 | 13.3 | 13.3 | 2.5 | 0.4 |
| | ø1/4 | **KQ2N03-07** | 38 | 13.3 | 13.3 | 2.5 | 0.6 |
| ø3/16 | ø1/4 | **KQ2N05-07** | 38.5 | 13.3 | 13.3 | 3.4 | 0.6 |
| | ø5/16 | **KQ2N05-09** | 41 | 13.3 | 13.3 | 3.4 | 1 |
| ø1/4 | ø5/16 | **KQ2N07-09** | 41.5 | 13.3 | 13.3 | 4.6 | 1 |
| | ø3/8 | **KQ2N07-11** | 45 | 15.6 | 13.3 | 4.6 | 1 |
| ø5/16 | ø3/8 | **KQ2N09-11** | 46.5 | 15.6 | 14.2 | 6 | 1.8 |
| | ø1/2 | **KQ2N09-13** | 47.5 | 17 | 14.2 | 6 | 2.6 |
| ø3/8 | ø1/2 | **KQ2N11-13** | 50 | 17 | 15.6 | 7 | 3.2 |



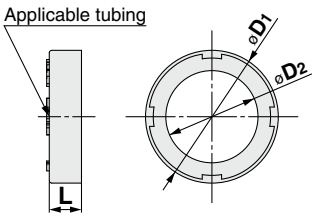

### Color Cap: KQ2C



| Applicable tubing O.D. [inch] | Model | ø**D1** | ø**D2** | **L** | Weight [g] | Note |
|---|---|---|---|---|---|---|
| ø1/8 | **KQ2C-01□A** | 7.3 | 4.3 | 2.6 | 0.1 | — |
| ø3/16 | **KQ2C-05□A** | 9 | 5.9 | 2.6 | 0.1 | |
| ø1/4∗1 | **KQ2C-07□B** | 11.5 | 7.5 | 2.6 | 0.1 | Applicable for products with enlarged outside diameter of release button |
| ø3/8 | **KQ2C-11□B** | 15.7 | 10.7 | 2.7 | 0.1 | |
| ø1/2 | **KQ2C-13□B** | 19.6 | 13.9 | 2.7 | 0.2 | |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

∗1 The KQ2S07-32□, KQ2S07-33□S, and KQ2S07-34□S are not applicable for products with enlarged outside diameter of release button. The applicable color cap is KQ2C-07□A.




**In order to improve operability, the outside diameter of the release button has been enlarged for the new KQ2 series. Therefore, the usable color caps will differ between pre-change and post-change products.**
**Refer to page 221 for details.**

# *KQ2 Series*
# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |
| KQ2□09-34□**Q**□ | Effective area is interchangeable with the current product (KQ series).<br>Applicable model: Male elbow<br>45° male elbow<br>Extended male elbow<br>Male branch tee<br>Male run tee<br>Applicable tubing O.D./Port size: ø5/16"/NPT1/8<br>Thread material/Surface treatment: Brass, Brass + Electroless nickel plating<br>Example) **KQ2L09-34AQS** |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

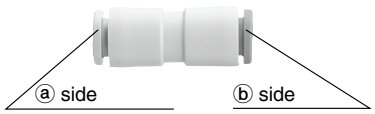
∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Metric/Inch Conversion Fittings

**Allows for the metric ↔ inch conversion of tubing**



ⓐ side
Release button: Light blue

ⓑ side
Release button: Orange

| Applicable tubing O.D. [mm] | | Model |
|---|---|---|
| ⓐ | ⓑ | |
| ø**6** | ø**1/4"** | **KQ2H06-07A-X562** |
| ø**10** | ø**3/8"** | **KQ2H10-11A-X562** |
| ø**12** | ø**1/2"** | **KQ2H12-13A-X562** |

### Variations

| | | Inch size | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | ø**1/8** (Metric nominal size: ø**3.2**) | ø**5/32** (Metric nominal size: ø**4**) | ø**3/16** | ø**1/4** | ø**5/16** (Metric nominal size: ø**8**) | ø**3/8** | ø**1/2** |
| Metric size | ø**2** | KQ2H02-23A | KQ2H02-04A | | | | | |
| | ø**3.2** (Inch nominal size: ø**1/8**) | Straight type (KQ2H23-00A/ KQ2H01-00A) | KQ2H01-03A<br>KQ2H23-04A | | KQ2H01-07A | | | |
| | ø**4** (Inch nominal size: ø**5/32**) | KQ2H01-03A<br>KQ2H23-04A | Straight type (KQ2H04-00A/ KQ2H03-00A) | KQ2H03-05A | KQ2H03-07A | | | |
| | ø**6** | KQ2H23-06A | KQ2H04-06A | | KQ2H06-07A-X562 (Made to Order) | KQ2H06-08A | | |
| | ø**8** (Inch nominal size: ø**5/16**) | | | | KQ2H07-09A | Straight type (KQ2H08-00A/ KQ2H09-00A) | KQ2H09-11A | KQ2H09-13A |
| | ø**10** | | | | | KQ2H08-10A | KQ2H10-11A-X562 (Made to Order) | |
| | ø**12** | | | | | | | KQ2H12-13A-X562 (Made to Order) |

## 3 Clean Series

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H07-35NS** (With thread)

**10-KQ2H07-00A** (Without thread)

## 4 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-5G2** | 10-32UNF |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ01-P01AJ** | KQ2E01-00AJ, KQ2E03-00AJ |
| | **KQ07-P01AJ** | KQ2E07-00AJ |
| | **KQ01-P01A** | KQ2E01-00A, KQ2E03-00A, KQ2E01-35A |
| | | KQ2E03-35A, KQ2LF01-00A, KQ2LE03-00A |
| | **KQ05-P01A** | KQ2E05-00A, KQ2E07-00A, KQ2E05-34A |
| | | KQ2E07-35A, KQ2LF05-00A, KQ2LE07-00A |
| | **KQ09-P01A** | KQ2E09-00A, KQ2E09-36A, KQ2LE09-00A |
| | **KQ11-P01A** | KQ2E11-00A, KQ2E11-36A, KQ2LE11-00A |
| | **KQ13-P01A** | KQ2E13-00A, KQ2E13-36A |
| | | KQ2E13-37A, KQ2LE13-00A |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ01-P01NJ** | KQ2E01-00NJ, KQ2E03-00NJ |
| | **KQ07-P01NJ** | KQ2E07-00NJ |
| | **KQ01-P01N** | KQ2E01-00N, KQ2E03-00N, KQ2E01-35N |
| | | KQ2E03-35N, KQ2LF01-00N, KQ2LE03-00N |
| | **KQ05-P01N** | KQ2E05-00N, KQ2E07-00N, KQ2E05-34N |
| | | KQ2E07-35N, KQ2LF05-00N, KQ2LE07-00N |
| | **KQ09-P01N** | KQ2E09-00N, KQ2E09-36N, KQ2LE09-00N |
| | **KQ11-P01N** | KQ2E11-00N, KQ2E11-36N, KQ2LE11-00N |
| | **KQ13-P01N** | KQ2E13-00N, KQ2E13-36N |
| | | KQ2E13-37N, KQ2LE13-00N |

### Color Cap

| Applicable tubing O.D. [inch] | Model | ø$D_1$ | ø$D_2$ | L | Weight [g] | Note |
|---|---|---|---|---|---|---|
| ø**1/4** | **KQ2C-07□A** | 10.7 | 7.5 | 2.6 | 0.1 | Applicable for products before enlargement of outside diameter of release button |
| ø**3/8** | **KQ2C-11□A** | 14.8 | 10.7 | 2.7 | 0.1 | |
| ø**1/2** | **KQ2C-13□A** | 18.5 | 13.9 | 2.7 | 0.1 | |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

# Inch Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

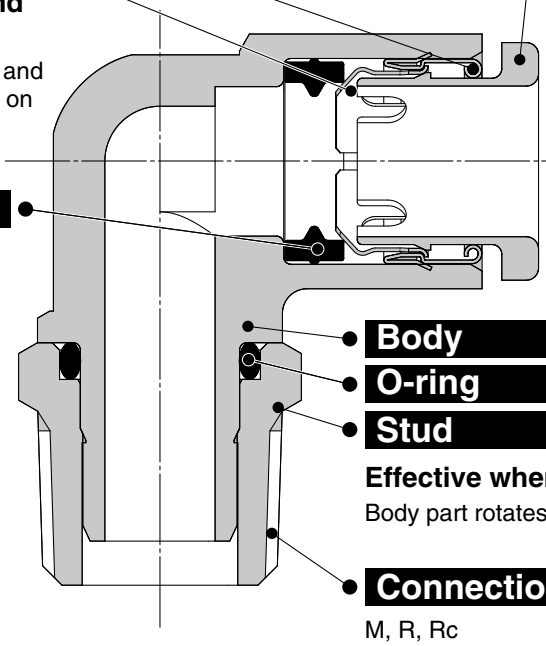
**Suitable for use with nylon and urethane.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

M, R, Rc

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



Made to Order

**Made to Order**
**(Refer to page 163 for details.)**

## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping)<br>JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Seal on the threads** | | With sealant |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT, PP |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 01 A S**

**One-touch Fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connecter |
| **L** | Male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |
| **U** | Branch "Y" |
| **E** | Bulkhead union |
| | Bulkhead connector |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

**Port size**

| Symbol | Size |
|---|---|
| **M5** | M5 x 0.8 |
| **01** | 1/8 |
| **02** | 1/4 |
| **03** | 3/8 |
| **04** | 1/2 |
| **00**∗1 | Same diameter tubing |

∗1 Only for "Bulkhead union".

**Male thread seal method**

| Symbol | Seal method |
|---|---|
| **Nil** | None |
| **S** | With thread sealant |

**Thread material/Surface treatment**

| Symbol | | Thread material/Surface treatment |
|---|---|---|
| **A** | | Brass |
| **N** | | Brass + Electroless nickel plating |
| Bulkhead union | **M□** | Only for "Bulkhead union" |

∗ □: A, N

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

**Spare Parts**

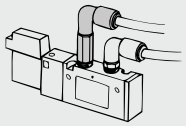
Use the part number below to order the gasket for M5 thread.
Gasket for M5 thread: M-5G2

## Round Type Variations

**Extended male elbow**
**KQ2W** P.161



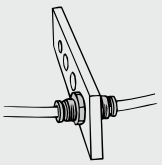
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Bulkhead union**
**KQ2E** P.162



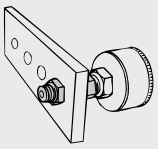
Use to connect tubing through a panel, etc.



**Bulkhead connector**
**KQ2E** P.162



Use to connect a male thread and tubing through a panel, etc.



**Male connector**
**KQ2H** P.160



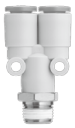
Use to pipe a female thread in the same direction. Most general model.

**Male branch tee**
**KQ2T** P.161



Use to branch a female thread at both 90° angles.

**Branch "Y"**
**KQ2U** P.162



Use to branch a female thread in the same direction.

**Male elbow**
**KQ2L** P.160



Use to pipe a female thread at right angles. Most general model.

**Male run tee**
**KQ2Y** P.161



Use to branch a female thread in the same direction and at a 90° angle.

| Tubing / One-touch fittings | Tubing / Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 135 and after for details.**

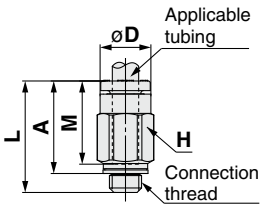
## Dimensions

### Male Connector: KQ2H (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread M | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | M5 x 0.8 | **KQ2H01-M5□** | 7 | 6.7 | 17.3 | 14.3 | 13.3 | 3.0 | 2.5 | 2.5 | 2.7 |
| ø3/16 | M5 x 0.8 | **KQ2H05-M5□** | 10 | 8.3 | 17.6 | 14.6 | 13.3 | 4.0 | 4.0 | 2.5 | 4.6 |
| ø1/4 | M5 x 0.8 | **KQ2H07-M5□** | 11 | 10.9 | 18.4 | 15.4 | 13.3 | 4.0 | 4.0 | 2.5 | 6.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

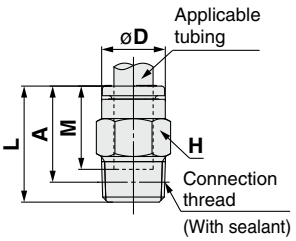



### Male Connector: KQ2H (Sealant)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2H01-01□S** | 10 | 6.7 | 14 | 10.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6 |
| | 1/4 | **KQ2H01-02□S** | 14 | 6.7 | 16.7 | 12 | 13.3 | 3.4 | 2.9 | 2.5 | 15.3 |
| ø3/16 | 1/8 | **KQ2H05-01□S** | 10 | 8.3 | 17.9 | 14.8 | 13.3 | 7.8 | 6.5 | 3.5 | 6.4 |
| | 1/4 | **KQ2H05-02□S** | 14 | 8.3 | 16.7 | 12 | 13.3 | 7.8 | 6.5 | 3.5 | 13.9 |
| ø1/4 | 1/8 | **KQ2H07-01□S** | 12 | 10.9 | 18.2 | 15.1 | 13.3 | 13.5 | 11.5 | 4.6 | 7.1 |
| | 1/4 | **KQ2H07-02□S** | 14 | 10.9 | 16.7 | 12 | 13.3 | 13.5 | 11.5 | 4.6 | 12.1 |
| | 3/8 | **KQ2H07-03□S** | 17 | 10.9 | 18.1 | 13 | 13.3 | 13.5 | 11.5 | 4.6 | 24 |
| ø5/16 | 1/8 | **KQ2H09-01□S** | 14 | 13 | 22.5 | 19.4 | 14.2 | 26.1 | 18 | 6 | 11.9 |
| | 1/4 | **KQ2H09-02□S** | 14 | 13 | 22 | 17.3 | 14.2 | 26.1 | 18 | 6 | 13.9 |
| | 3/8 | **KQ2H09-03□S** | 17 | 13 | 18.1 | 13 | 14.2 | 26.1 | 18 | 6 | 21 |
| ø3/8 | 1/4 | **KQ2H11-02□S** | 17 | 15.1 | 26.9 | 22.2 | 15.6 | 35.3 | 29.1 | 7 | 22.5 |
| | 3/8 | **KQ2H11-03□S** | 17 | 15.1 | 23.2 | 18.1 | 15.6 | 35.3 | 29.1 | 7 | 22.9 |
| | 1/2 | **KQ2H11-04□S** | 22 | 15.1 | 22.3 | 15.9 | 15.6 | 35.3 | 29.1 | 7 | 45.9 |
| ø1/2 | 1/4 | **KQ2H13-02□S** | 19 | 19 | 28.7 | 24 | 17 | 58.5 | 51.7 | 9 | 23.3 |
| | 3/8 | **KQ2H13-03□S** | 19 | 19 | 27.2 | 22.1 | 17 | 66.0 | 51.7 | 9.6 | 26.2 |
| | 1/2 | **KQ2H13-04□S** | 22 | 19 | 22.3 | 15.9 | 17 | 66.0 | 51.7 | 9.6 | 35.4 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 Reference dimensions after installation of R thread

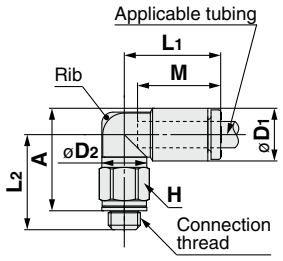



### Male Elbow: KQ2L (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread M | Model | H (Width across flats) | ø$D_1$*1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | M5 x 0.8 | **KQ2L01-M5□** | 7 | 7.1 | 7 | 15.3 | 14.3 | 14.9 | 13.3 | 2.6 | 2.2 | 2.5 | 3.1 | ● |
| ø1/4 | M5 x 0.8 | **KQ2L07-M5□** | 7 | 11.1 | 7 | 15.4 | 16.1 | 18.7 | 13.3 | 3.5 | 3.5 | 2.5 | 3.6 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 ø$D_1$ is maximum diameter.

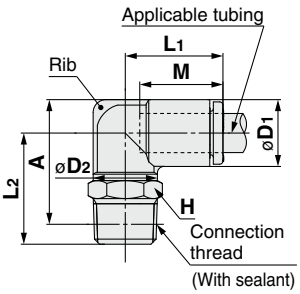



### Male Elbow: KQ2L (Sealant)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$*1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2L05-01□S** | 10 | 9.1 | 10 | 15 | 16.7 | 18.2 | 13.3 | 6.8 | 5.6 | 3.5 | 5 | — |
| | 1/4 | **KQ2L05-02□S** | 14 | 9.1 | 10 | 15 | 22.2 | 22.1 | 13.3 | 6.8 | 5.6 | 3.5 | 14.5 | — |
| ø1/4 | 1/8 | **KQ2L07-01□S** | 10 | 11.1 | 10 | 15.6 | 17.7 | 20.2 | 13.3 | 11.3 | 10 | 4.5 | 5.3 | ● |
| | 1/4 | **KQ2L07-02□S** | 14 | 11.1 | 10 | 15.6 | 23.2 | 24.1 | 13.3 | 11.3 | 10 | 4.5 | 14.8 | ● |
| | 3/8 | **KQ2L07-03□S** | 17 | 11.1 | 10 | 15.6 | 24.5 | 25.0 | 13.3 | 11.3 | 10 | 4.5 | 26.5 | ● |
| ø5/16 | 1/8 | **KQ2L09-01□S** | 10 | 13.2 | 10 | 16.4 | 18.7 | 22.2 | 14.2 | 11.4 | 11.4 | 4.5 | 6.1 | ● |
| | | **KQ2L09-01□QS**[*3] | 12 | 13.2 | 12 | 17.2 | 23.5 | 27.0 | 14.2 | 21.6 | 14.9 | 6 | 9.3 | ● |
| | 1/4 | **KQ2L09-02□S** | 14 | 13.2 | 12 | 17.2 | 25.4 | 27.3 | 14.2 | 21.6 | 14.9 | 6 | 17.7 | ● |
| | 3/8 | **KQ2L09-03□S** | 17 | 13.2 | 12 | 17.2 | 25.5 | 27.0 | 14.2 | 21.6 | 14.9 | 6 | 24.7 | ● |
| ø3/8 | 1/4 | **KQ2L11-02□S** | 17 | 15.4 | 17 | 19.3 | 28.5 | 31.5 | 15.6 | 28.8 | 23.8 | 7.5 | 21.5 | ● |
| | 3/8 | **KQ2L11-03□S** | 17 | 15.4 | 17 | 19.3 | 29.4 | 32.0 | 15.6 | 28.8 | 23.8 | 7.5 | 22 | ● |
| | 1/2 | **KQ2L11-04□S** | 22 | 15.4 | 17 | 19.3 | 33.4 | 34.7 | 15.6 | 28.8 | 23.8 | 7.5 | 44.4 | ● |
| ø1/2 | 1/4 | **KQ2L13-02□S** | 17 | 19.3 | 17 | 21.5 | 30.4 | 35.3 | 17 | 50.3 | 44.4 | 9 | 23.8 | — |
| | 3/8 | **KQ2L13-03□S** | 17 | 19.3 | 17 | 21.8 | 28.5 | 33.0 | 17 | 56.7 | 44.4 | 9.5 | 23.2 | — |
| | 1/2 | **KQ2L13-04□S** | 22 | 19.3 | 17 | 21.8 | 30.5 | 33.7 | 17 | 56.7 | 44.4 | 9.5 | 44.6 | — |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 163.

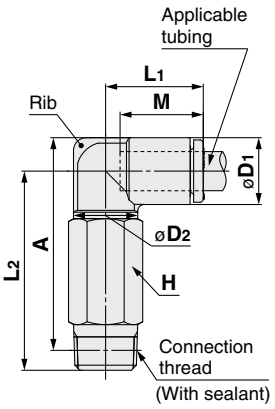


## Dimensions

### Extended Male Elbow: KQ2W (Sealant)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2W05-01□S | 10 | 9.1 | 10 | 15 | 30.4 | 31.8 | 13.3 | 6.8 | 5.6 | 3.5 | 11.2 | — |
| | 1/4 | KQ2W05-02□S | 14 | 9.1 | 10 | 15 | 33.8 | 33.7 | 13.3 | 6.8 | 5.6 | 3.5 | 27.7 | — |
| ø1/4 | 1/8 | KQ2W07-01□S | 10 | 11.1 | 10 | 15.6 | 31.4 | 33.8 | 13.3 | 11.6 | 10.0 | 4.5 | 11.5 | ● |
| | 1/4 | KQ2W07-02□S | 14 | 11.1 | 10 | 15.6 | 34.8 | 35.7 | 13.3 | 11.6 | 10.0 | 4.5 | 28 | ● |
| | 3/8 | KQ2W07-03□S | 17 | 11.1 | 10 | 15.6 | 36.1 | 36.6 | 13.3 | 11.6 | 10.0 | 4.5 | 47.4 | ● |
| ø5/16 | 1/8 | KQ2W09-01□S | 10 | 13.2 | 10 | 16.4 | 32.4 | 35.9 | 14.2 | 11.6 | 11.6 | 4.5 | 12.2 | ● |
| | | KQ2W09-01□QS *3 | 12 | 13.2 | 12 | 17.2 | 42.4 | 45.9 | 14.2 | 21.5 | 14.9 | 6 | 23.7 | ● |
| | 1/4 | KQ2W09-02□S | 14 | 13.2 | 12 | 17.2 | 39.1 | 41 | 14.2 | 21.5 | 14.9 | 6 | 40 | ● |
| | 3/8 | KQ2W09-03□S | 17 | 13.2 | 12 | 17.2 | 39.2 | 40.7 | 14.2 | 21.5 | 14.9 | 6 | 47 | ● |
| ø3/8 | 1/4 | KQ2W11-02□S | 17 | 15.4 | 17 | 19.3 | 52.7 | 55.7 | 15.6 | 28.8 | 23.8 | 7 | 58.8 | ● |
| | 3/8 | KQ2W11-03□S | 17 | 15.4 | 17 | 19.3 | 48.3 | 50.9 | 15.6 | 28.8 | 23.8 | 7 | 51.1 | ● |
| | 1/2 | KQ2W11-04□S | 22 | 15.4 | 17 | 19.3 | 52.3 | 53.6 | 15.6 | 28.8 | 23.8 | 7 | 91.8 | ● |
| ø1/2 | 1/4 | KQ2W13-02□S | 17 | 19.3 | 17 | 21.5 | 54.6 | 59.6 | 17 | 56.7 | 44.4 | 9 | 61 | — |
| | 3/8 | KQ2W13-03□S | 17 | 19.3 | 17 | 21.8 | 48.2 | 52.8 | 17 | 56.7 | 44.4 | 9.5 | 48.4 | — |
| | 1/2 | KQ2W13-04□S | 22 | 19.3 | 17 | 21.8 | 50.2 | 53.5 | 17 | 56.7 | 44.4 | 9.5 | 92.3 | — |



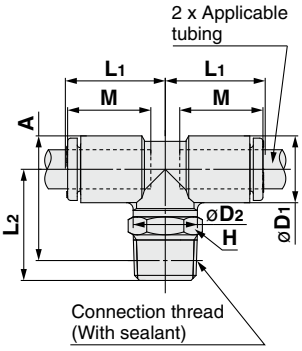

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 163.

### Male Branch Tee: KQ2T (Sealant)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2T05-01□S | 10 | 9.1 | 10 | 15 | 16.7 | 18.1 | 13.3 | 8.4 | 7.0 | 3.5 | 5.8 |
| | 1/4 | KQ2T05-02□S | 14 | 9.1 | 10 | 15 | 22.2 | 22 | 13.3 | 8.4 | 7.0 | 3.5 | 15.3 |
| ø1/4 | 1/8 | KQ2T07-01□S | 10 | 11.1 | 10 | 15.6 | 17.7 | 20.1 | 13.3 | 14.4 | 12.4 | 4.5 | 6.5 |
| | 1/4 | KQ2T07-02□S | 14 | 11.1 | 10 | 15.6 | 23.2 | 24 | 13.3 | 14.4 | 12.4 | 4.5 | 16 |
| | 3/8 | KQ2T07-03□S | 17 | 11.1 | 10 | 15.6 | 24.5 | 24.9 | 13.3 | 14.4 | 12.4 | 4.5 | 27.7 |
| ø5/16 | 1/8 | KQ2T09-01□S | 10 | 13.2 | 10 | 16.4 | 18.7 | 22.2 | 14.2 | 14.4 | 14.4 | 4.5 | 7.9 |
| | | KQ2T09-01□QS *3 | 12 | 13.2 | 12 | 17.2 | 23.5 | 27 | 14.2 | 26.3 | 18.2 | 6 | 11.0 |
| | 1/4 | KQ2T09-02□S | 14 | 13.2 | 12 | 17.2 | 25.4 | 27.3 | 14.2 | 26.3 | 18.2 | 6 | 19.4 |
| | 3/8 | KQ2T09-03□S | 17 | 13.2 | 12 | 17.2 | 25.5 | 27 | 14.2 | 26.3 | 18.2 | 6 | 26.5 |
| ø3/8 | 1/4 | KQ2T11-02□S | 17 | 15.4 | 17 | 19.3 | 28.4 | 31.4 | 15.6 | 28.8 | 23.8 | 7.5 | 23.9 |
| | 3/8 | KQ2T11-03□S | 17 | 15.4 | 17 | 19.3 | 29.3 | 31.9 | 15.6 | 28.8 | 23.8 | 7.5 | 24.4 |
| | 1/2 | KQ2T11-04□S | 22 | 15.4 | 17 | 19.3 | 33.3 | 34.6 | 15.6 | 28.8 | 23.8 | 7.5 | 46.9 |
| ø1/2 | 1/4 | KQ2T13-02□S | 17 | 19.3 | 17 | 21.5 | 30.3 | 35.3 | 17 | 57.3 | 50.6 | 9 | 27.9 |
| | 3/8 | KQ2T13-03□S | 17 | 19.3 | 17 | 21.8 | 28.4 | 33 | 17 | 63.8 | 50.6 | 9.5 | 27.4 |
| | 1/2 | KQ2T13-04□S | 22 | 19.3 | 17 | 21.8 | 30.4 | 33.7 | 17 | 63.8 | 50.6 | 9.5 | 48.8 |



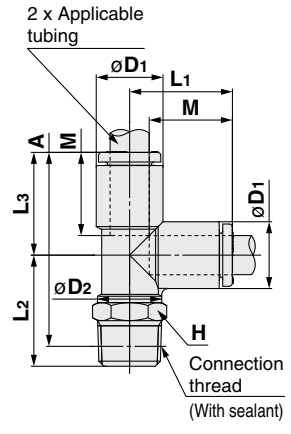

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 163.

### Male Run Tee: KQ2Y (Sealant)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2Y05-01□S | 10 | 9.1 | 10 | 15.7 | 16.7 | 15.7 | 29.3 | 13.3 | 8.4 | 7.0 | 3.5 | 5.9 |
| | 1/4 | KQ2Y05-02□S | 14 | 9.1 | 10 | 15.7 | 22.2 | 15.7 | 33.2 | 13.3 | 8.4 | 7.0 | 3.5 | 15.4 |
| ø1/4 | 1/8 | KQ2Y07-01□S | 10 | 11.1 | 10 | 16.5 | 17.7 | 16.5 | 31.1 | 13.3 | 14.0 | 12.4 | 4.5 | 6.5 |
| | 1/4 | KQ2Y07-02□S | 14 | 11.1 | 10 | 16.5 | 23.2 | 16.5 | 35 | 13.3 | 14.0 | 12.4 | 4.5 | 16 |
| | 3/8 | KQ2Y07-03□S | 17 | 11.1 | 10 | 16.5 | 24.5 | 16.5 | 35.9 | 13.3 | 14.0 | 12.4 | 4.5 | 27.7 |
| ø5/16 | 1/8 | KQ2Y09-01□S | 10 | 13.2 | 10 | 18.2 | 18.7 | 18.2 | 33.8 | 14.2 | 14.0 | 14.0 | 4.5 | 8 |
| | | KQ2Y09-01□QS *3 | 12 | 13.2 | 12 | 18.2 | 23.5 | 18.2 | 38.7 | 14.2 | 26.3 | 18.3 | 6 | 11.1 |
| | 1/4 | KQ2Y09-02□S | 14 | 13.2 | 12 | 18.2 | 25.4 | 18.2 | 38.9 | 14.2 | 26.3 | 18.3 | 6 | 19.5 |
| | 3/8 | KQ2Y09-03□S | 17 | 13.2 | 12 | 18.2 | 25.5 | 18.2 | 38.6 | 14.2 | 26.3 | 18.3 | 6 | 26.5 |
| ø3/8 | 1/4 | KQ2Y11-02□S | 17 | 15.4 | 17 | 20.4 | 28.4 | 20.4 | 44.1 | 15.6 | 28.8 | 23.8 | 7.5 | 24.1 |
| | 3/8 | KQ2Y11-03□S | 17 | 15.4 | 17 | 20.4 | 29.3 | 20.4 | 44.6 | 15.6 | 28.8 | 23.8 | 7.5 | 24.5 |
| | 1/2 | KQ2Y11-04□S | 22 | 15.4 | 17 | 20.4 | 33.3 | 20.4 | 47.3 | 15.6 | 28.8 | 23.8 | 7.5 | 47 |
| ø1/2 | 1/4 | KQ2Y13-02□S | 17 | 19.3 | 17 | 23.4 | 30.3 | 23.4 | 49 | 17 | 57.3 | 50.6 | 9 | 28.3 |
| | 3/8 | KQ2Y13-03□S | 17 | 19.3 | 17 | 23.4 | 28.4 | 23.4 | 46.7 | 17 | 64.6 | 50.6 | 9.5 | 27.6 |
| | 1/2 | KQ2Y13-04□S | 22 | 19.3 | 17 | 23.4 | 30.4 | 23.4 | 47.4 | 17 | 64.6 | 50.6 | 9.5 | 49 |

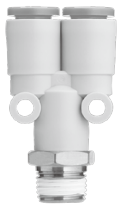



□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of R thread
*3 For details, refer to page 163.

## Dimensions

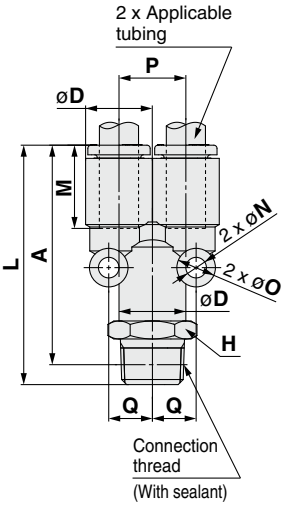
### Branch "Y": KQ2U (Sealant)



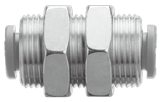
| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | *1 øD | L | P | A*2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2U05-01□S** | 12 | 9.1 | 37.1 | 9.1 | 34 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7.0 | 3.5 | 10.3 |
| | 1/4 | **KQ2U05-02□S** | 14 | 9.1 | 41.5 | 9.1 | 36.8 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7.0 | 3.5 | 19.5 |
| ø1/4 | 1/8 | **KQ2U07-01□S** | 12 | 11.1 | 37.8 | 11.1 | 34.7 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 4.6 | 11.3 |
| | 1/4 | **KQ2U07-02□S** | 14 | 11.1 | 42.2 | 11.1 | 37.5 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 4.6 | 20.1 |
| | 3/8 | **KQ2U07-03□S** | 17 | 11.1 | 43.6 | 11.1 | 38.5 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 4.6 | 32 |
| ø5/16 | 1/8 | **KQ2U09-01□S** | 14 | 13.2 | 40.7 | 13.2 | 37.6 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 6 | 15.8 |
| | 1/4 | **KQ2U09-02□S** | 14 | 13.2 | 45.1 | 13.2 | 40.4 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 6 | 20.9 |
| | 3/8 | **KQ2U09-03□S** | 17 | 13.2 | 46.5 | 13.2 | 41.4 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 6 | 32.7 |
| ø3/8 | 1/4 | **KQ2U11-02□S** | 17 | 15.4 | 48.6 | 15.4 | 43.9 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 7 | 24.5 |
| | 3/8 | **KQ2U11-03□S** | 17 | 15.4 | 50 | 15.4 | 44.9 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 7 | 33.5 |
| | 1/2 | **KQ2U11-04□S** | 22 | 15.4 | 54.2 | 15.4 | 47.8 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 7 | 61.6 |
| ø1/2 | 1/4 | **KQ2U13-02□S** | 21 | 19.3 | 53.4 | 19.3 | 48.7 | 17 | 11.8 | 8 | 4.2 | 57.3 | 50.6 | 9 | 40.4 |
| | 3/8 | **KQ2U13-03□S** | 21 | 19.3 | 54.8 | 19.3 | 49.7 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 9.6 | 43.9 |
| | 1/2 | **KQ2U13-04□S** | 22 | 19.3 | 59 | 19.3 | 52.6 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 9.6 | 61 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.
*2 Reference dimensions after installation of R thread

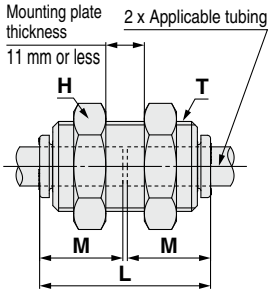



### Bulkhead Union: KQ2E

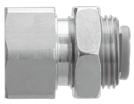


| Applicable tubing O.D. [inch] | Model | T (M) | H (Width across flats) | L | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | **KQ2E05-00M□** | M14 x 1 | 17 | 27.3 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 30.5 |
| ø1/4 | **KQ2E07-00M□** | M14 x 1 | 17 | 27.3 | 15 | 13.3 | 13.5 | 11.5 | 4.6 | 27.2 |
| ø5/16 | **KQ2E09-00M□** | M16 x 1 | 19 | 29.1 | 17 | 14.2 | 26.1 | 18 | 6 | 34 |
| ø3/8 | **KQ2E11-00M□** | M20 x 1 | 24 | 31.9 | 21 | 15.6 | 35.3 | 29.1 | 7 | 66.1 |
| ø1/2 | **KQ2E13-00M□** | M22 x 1 | 27 | 34.7 | 23 | 17 | 66.0 | 51.7 | 9.6 | 59.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

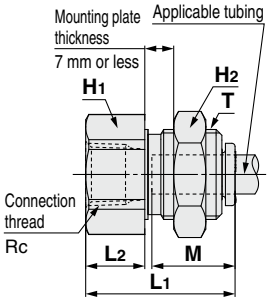



### Bulkhead Connector: KQ2E



| Applicable tubing O.D. [inch] | Connection thread Rc | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2E05-01□** | M14 x 1 | 17 | 17 | 23.9 | 9.5 | 15 | 13.3 | 7.8 | 6.5 | 3.5 | 30.8 |
| ø1/4 | 1/4 | **KQ2E07-02□** | M14 x 1 | 17 | 17 | 28.4 | 14 | 15 | 13.3 | 13.5 | 11.5 | 4.6 | 32 |
| ø5/16 | 3/8 | **KQ2E09-03□** | M16 x 1 | 19 | 19 | 31.7 | 14.3 | 17 | 14.2 | 26.1 | 18 | 6 | 59.2 |
| ø3/8 | 3/8 | **KQ2E11-03□** | M20 x 1 | 22 | 24 | 31.5 | 12.1 | 21 | 15.6 | 35.3 | 29.1 | 7 | 62.7 |
| ø1/2 | 3/8 | **KQ2E13-03□** | M22 x 1 | 24 | 27 | 32.1 | 11.7 | 23 | 17 | 66.0 | 51.7 | 9.6 | 66.7 |
| | 1/2 | **KQ2E13-04□** | M22 x 1 | 24 | 27 | 37.7 | 17.3 | 23 | 17 | 66.0 | 51.7 | 9.6 | 70.6 |

□: A (Brass), N (Brass + Electroless nickel plating)



# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |
| KQ2□09-01□**Q**□ | Effective area is interchangeable with the current product (KQ series).<br>Applicable model: Male elbow<br>Extended male elbow<br>Male branch tee<br>Male run tee<br>Applicable tubing O.D./Port size: ø5/16"/R1/8<br>Thread material/Surface treatment: Brass, Brass + Electroless nickel plating<br>Example) **KQ2L09-01AQS** |

∗1 The following models are not available as made-to-order: Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Male connector/KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X34** | Rubber material: FKM |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |
| **X94** | Grease-free<br>Rubber material: FKM (With fluorine coating)<br>Release button color: Light blue |

## 2 Clean Series

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H07-02NS**

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **M-5G2** | M5 |

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ06-P01A** | KQ2E05-00MA, KQ2E07-00MA |
| | | KQ2E05-01A, KQ2E07-02A |
| | **KQ08-P01A** | KQ2E09-00MA, KQ2E09-03A |
| | **KQ10-P01A** | KQ2E11-00MA, KQ2E11-03A |
| | **KQ12-P01A** | KQ2E13-00MA |
| | | KQ2E13-03A, KQ2E13-04A |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ06-P01N** | KQ2E05-00MN, KQ2E07-00MN |
| | | KQ2E05-01N, KQ2E07-02N |
| | **KQ08-P01N** | KQ2E09-00MN, KQ2E09-03N |
| | **KQ10-P01N** | KQ2E11-00MN, KQ2E11-03N |
| | **KQ12-P01N** | KQ2E13-00MN |
| | | KQ2E13-03N, KQ2E13-04N |

# Metric Size One-touch Fittings

## Applicable Tubing: Metric Size, Connection Thread: G

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

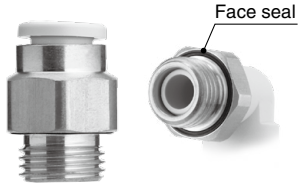
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

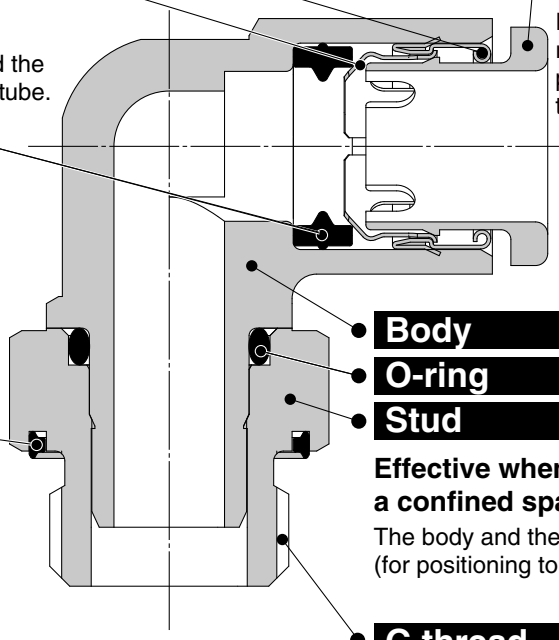
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**G thread**

**Applicable to parallel pipe thread (G).**

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

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

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | −5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ISO 16030 (Parallel pipe thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 06 – G01 A**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **F** | Female connector |
| **L** | Male elbow |
| **V** | Universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **E** | Bulkhead connector |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **04** | ø4 |
| **06** | ø6 |
| **08** | ø8 |
| **10** | ø10 |
| **12** | ø12 |
| **16** | ø16 |

**Port size**

| Symbol | | Size |
|---|---|---|
| Thread connection | **G01** | G1/8 |
| | **G02** | G1/4 |
| | **G03** | G3/8 |
| | **G04** | G1/2 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

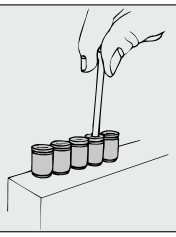
## Round Type Variations

**Hexagon socket head male connector**

**KQ2S** P.168



Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.

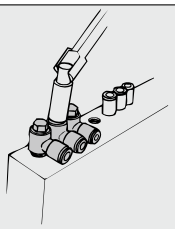


**Universal male elbow**

**KQ2V** P.169



Hexagon head of the body allows tightening with a box wrench in confined spaces.

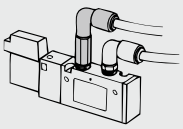


**Extended male elbow**

**KQ2W** P.170



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.

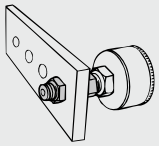


**Bulkhead connector**

**KQ2E** P.171



Use to connect a male thread and tubing through a panel, etc.



**Male connector**

**KQ2H** P.168



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**

**KQ2L** P.169



Use to pipe a female thread at right angles. Most general model.

**Male run tee**

**KQ2Y** P.171



Use to branch a female thread in the same direction and at a 90° angle.

**Female connector**

**KQ2F** P.168



Use to pipe a male thread of a pressure gauge, etc.

**Male branch tee**

**KQ2T** P.170



Use to branch a female thread at both 90° angles.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | Refer to page 103 and after for details. |

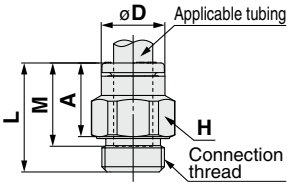
## Dimensions

### Male Connector: KQ2H (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2H04-G01□ | 12 | 7.7 | 17.1 | 11.6 | 13.3 | 4.8 | 3.4 | 3 | 7.7 |
| | 1/4 | KQ2H04-G02□ | 17 | 7.7 | 15.4 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 16.8 |
| ø6 | 1/8 | KQ2H06-G01□ | 12 | 9.7 | 17.3 | 11.8 | 13.3 | 13.1 | 10.4 | 4.5 | 6.6 |
| | 1/4 | KQ2H06-G02□ | 17 | 9.7 | 15.4 | 8.9 | 13.3 | 13.1 | 10.4 | 4.5 | 14.8 |
| | 3/8 | KQ2H06-G03□ | 21 | 9.7 | 16.4 | 8.9 | 13.3 | 13.1 | 10.4 | 4.5 | 27.1 |
| ø8 | 1/8 | KQ2H08-G01□ | 14 | 13 | 21.4 | 15.9 | 14.2 | 26.1 | 18 | 6 | 7.5 |
| | 1/4 | KQ2H08-G02□ | 17 | 13 | 19.9 | 13.4 | 14.2 | 26.1 | 18 | 6 | 15.5 |
| | 3/8 | KQ2H08-G03□ | 21 | 13 | 16.4 | 8.9 | 14.2 | 26.1 | 18 | 6 | 23.8 |
| ø10 | 1/8 | KQ2H10-G01□ | 17 | 15.6 | 23.2 | 17.7 | 15.6 | 26.1 | 26.1 | 6 | 15.7 |
| | 1/4 | KQ2H10-G02□ | 17 | 15.6 | 22.8 | 16.3 | 15.6 | 41.5 | 29.5 | 7.5 | 16.8 |
| | 3/8 | KQ2H10-G03□ | 21 | 15.6 | 21.8 | 14.3 | 15.6 | 41.5 | 29.5 | 7.5 | 26.1 |
| | 1/2 | KQ2H10-G04□ | 27 | 15.6 | 17.9 | 8.9 | 15.6 | 41.5 | 29.5 | 7.5 | 39.9 |
| ø12 | 1/4 | KQ2H12-G02□ | 19 | 18.2 | 25.3 | 18.8 | 17 | 58.3 | 46.1 | 9 | 15.1 |
| | 3/8 | KQ2H12-G03□ | 21 | 18.2 | 23.6 | 16.1 | 17 | 58.3 | 46.1 | 9 | 25.6 |
| | 1/2 | KQ2H12-G04□ | 27 | 18.2 | 24.8 | 15.8 | 17 | 58.3 | 46.1 | 9 | 46.9 |
| ø16 | 3/8 | KQ2H16-G03□ | 27 | 23.6 | 30.5 | 23 | 20.6 | 81 | 67 | 11 | 47.1 |
| | 1/2 | KQ2H16-G04□ | 27 | 23.6 | 29.7 | 20.7 | 20.6 | 113 | 67 | 13 | 48.8 |

□: A (Brass), N (Brass + Electroless nickel plating)



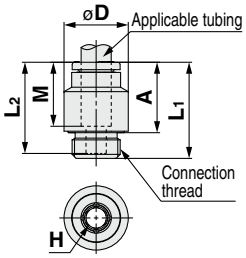

### Hexagon Socket Head Male Connector: KQ2S (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | *1 øD | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-G01□ | 3 | 13 | 20.6 | 19.6 | 15.1 | 13.3 | 4.1 | 3.6 | 3.1 | 11.6 |
| ø6 | 1/8 | KQ2S06-G01□ | 4 | 13 | 19.8 | 18.8 | 14.3 | 13.3 | 10 | 9.9 | 4.1 | 9.7 |
| | 1/4 | KQ2S06-G02□ | 4 | 18 | 19.8 | 18.8 | 13.3 | 13.3 | 10.7 | 10 | 4.1 | 18 |
| ø8 | 1/8 | KQ2S08-G01□ | 5 | 13 | 21.7 | 19.7 | 16.2 | 14.2 | 17.2 | 16.2 | 5.1 | 9.5 |
| | 1/4 | KQ2S08-G02□ | 6 | 18 | 20.5 | 19.5 | 14 | 14.2 | 23.3 | 16.2 | 6.1 | 17.2 |
| | 3/8 | KQ2S08-G03□ | 6 | 22 | 20.7 | 19.7 | 13.2 | 14.2 | 23.3 | 16.2 | 6.1 | 27.1 |
| ø10 | 1/8 | KQ2S10-G01□ | 5 | 15.6 | 23 | 21.1 | 17.5 | 15.6 | 17.2 | 16.2 | 5.1 | 10.9 |
| | 1/4 | KQ2S10-G02□ | 8 | 18 | 24.1 | 20.1 | 17.6 | 15.6 | 39 | 26.6 | 8.1 | 19.2 |
| | 3/8 | KQ2S10-G03□ | 8 | 22 | 21.4 | 20.1 | 13.9 | 15.6 | 39 | 26.6 | 8.1 | 25 |
| | 1/2 | KQ2S10-G04□ | 8 | 26 | 21.1 | 20.1 | 12.1 | 15.6 | 39 | 26.6 | 8.1 | 34.1 |
| ø12 | 1/4 | KQ2S12-G02□ | 8 | 18.2 | 25.6 | 21.5 | 19.1 | 17 | 46 | 44.5 | 8.1 | 18.3 |
| | 3/8 | KQ2S12-G03□ | 10 | 22 | 23.8 | 21.8 | 16.3 | 17 | 60 | 44.5 | 10.1 | 25.7 |
| | 1/2 | KQ2S12-G04□ | 10 | 26 | 22.8 | 21.8 | 13.8 | 17 | 60 | 44.5 | 10.1 | 35.6 |
| ø16 | 3/8 | KQ2S16-G03□ | 10 | 23.6 | 30.8 | 25.4 | 23.3 | 20.6 | 81 | 67 | 10.1 | 29.2 |
| | 1/2 | KQ2S16-G04□ | 12 | 26 | 30.3 | 26.1 | 21.3 | 20.6 | 113 | 67 | 12.1 | 45.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



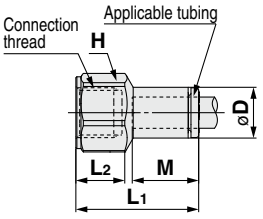

### Female Connector: KQ2F



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | *1 øD | L1 | L2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2F04-G01□ | 14 | 7.9 | 24.7 | 9.5 | 13.3 | 5.6 | 4 | 3 | 12.4 |
| | 1/4 | KQ2F04-G02□ | 17 | 7.9 | 30.1 | 13.9 | 13.3 | 5.6 | 4 | 3 | 21.3 |
| ø6 | 1/8 | KQ2F06-G01□ | 14 | 9.9 | 24.3 | 9.5 | 13.3 | 13.1 | 10.4 | 4.5 | 12.6 |
| | 1/4 | KQ2F06-G02□ | 17 | 9.9 | 29.6 | 13.9 | 13.3 | 13.1 | 10.4 | 4.5 | 21.4 |
| | 3/8 | KQ2F06-G03□ | 21 | 9.9 | 31.1 | 13.7 | 13.3 | 13.1 | 10.4 | 4.5 | 29.6 |
| ø8 | 1/8 | KQ2F08-G01□ | 14 | 13 | 24.7 | 9.5 | 14.2 | 26.1 | 18 | 6 | 15.1 |
| | 1/4 | KQ2F08-G02□ | 17 | 13 | 30.1 | 13.9 | 14.2 | 26.1 | 18 | 6 | 24 |
| | 3/8 | KQ2F08-G03□ | 21 | 13 | 31.6 | 13.7 | 14.2 | 26.1 | 18 | 6 | 32.3 |
| ø10 | 1/4 | KQ2F10-G02□ | 17 | 15.6 | 31.1 | 13.9 | 15.6 | 41.5 | 29.5 | 7.5 | 24.1 |
| | 3/8 | KQ2F10-G03□ | 21 | 15.6 | 32.6 | 13.7 | 15.6 | 41.5 | 29.5 | 7.5 | 32.6 |
| ø12 | 1/4 | KQ2F12-G02□ | 19 | 18.2 | 32 | 13.8 | 17 | 58.3 | 46.1 | 9 | 33 |
| | 3/8 | KQ2F12-G03□ | 21 | 18.2 | 33.5 | 13.7 | 17 | 58.3 | 46.1 | 9 | 34.1 |
| | 1/2 | KQ2F12-G04□ | 27 | 18.2 | 38.6 | 16.9 | 17 | 58.3 | 46.1 | 9 | 64.9 |
| ø16 | 3/8 | KQ2F16-G03□ | 24 | 23.6 | 36 | 14.4 | 20.6 | 81 | 67 | 13 | 55.7 |
| | 1/2 | KQ2F16-G04□ | 27 | 23.6 | 41.1 | 16.9 | 20.6 | 113 | 67 | 13 | 71.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



## Dimensions

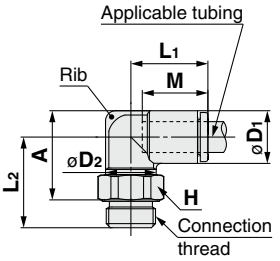
### Male Elbow: KQ2L (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2L04-G01□ | 12 | 8.2 | 10 | 14.8 | 16.8 | 15.4 | 13.3 | 4.6 | 3.3 | 3 | 6.3 | ● |
| | 1/4 | KQ2L04-G02□ | 17 | 8.2 | 10 | 14.8 | 20.3 | 17.9 | 13.3 | 4.6 | 3.3 | 3 | 16.7 | ● |
| ø6 | 1/8 | KQ2L06-G01□ | 12 | 10.4 | 10 | 15.5 | 17.9 | 17.6 | 13.3 | 11.4 | 9 | 4.5 | 6.7 | — |
| | 1/4 | KQ2L06-G02□ | 17 | 10.4 | 10 | 15.5 | 21.4 | 20.1 | 13.3 | 11.4 | 9 | 4.5 | 17.2 | — |
| | 3/8 | KQ2L06-G03□ | 21 | 10.4 | 10 | 15.5 | 22.4 | 20.1 | 13.3 | 11.4 | 9 | 4.5 | 28.9 | — |
| ø8 | 1/8 | KQ2L08-G01□ | 12 | 13.2 | 10 | 16.4 | 19.3 | 20.4 | 14.2 | 11.4 | 11.4 | 4.5 | 7.6 | ● |
| | 1/4 | KQ2L08-G02□ | 17 | 13.2 | 12 | 17.2 | 22.8 | 22.9 | 14.2 | 21.6 | 14.9 | 6 | 15.9 | ● |
| | 3/8 | KQ2L08-G03□ | 21 | 13.2 | 12 | 17.2 | 23.8 | 22.9 | 14.2 | 21.6 | 14.9 | 6 | 27.9 | ● |
| ø10 | 1/8 | KQ2L10-G01□ | 12 | 15.9 | 12 | 18.6 | 22.5 | 24.9 | 15.6 | 21.6 | 14.9 | 6 | 10.3 | ● |
| | 1/4 | KQ2L10-G02□ | 17 | 15.9 | 17 | 19.3 | 24.6 | 26.0 | 15.6 | 35.2 | 25 | 7.5 | 17.5 | ● |
| | 3/8 | KQ2L10-G03□ | 21 | 15.9 | 17 | 19.3 | 27.7 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 22.6 | ● |
| | 1/2 | KQ2L10-G04□ | 27 | 15.9 | 17 | 19.3 | 29.2 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 42.5 | ● |
| ø12 | 1/4 | KQ2L12-G02□ | 17 | 18.5 | 17 | 21.5 | 25.9 | 28.6 | 17 | 50.2 | 39.7 | 9 | 19.3 | ● |
| | 3/8 | KQ2L12-G03□ | 21 | 18.5 | 17 | 21.5 | 29.0 | 30.7 | 17 | 50.2 | 39.7 | 9 | 24.5 | ● |
| | 1/2 | KQ2L12-G04□ | 27 | 18.5 | 17 | 21.5 | 30.5 | 30.7 | 17 | 50.2 | 39.7 | 9 | 44.4 | ● |
| ø16 | 3/8 | KQ2L16-G03□ | 21 | 23.8 | 21 | 27.1 | 33.1 | 37.5 | 20.6 | 71 | 58.9 | 11 | 35.2 | — |
| | 1/2 | KQ2L16-G04□ | 27 | 23.8 | 21 | 27.1 | 33.8 | 36.7 | 20.6 | 100 | 58.9 | 13 | 58.7 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



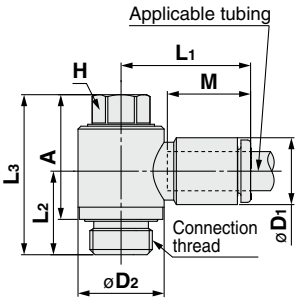

### Universal Male Elbow: KQ2V (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-G01□ | 8 | 8.2 | 13.4 | 19.3 | 13 | 24.9 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 12.9 |
| ø6 | 1/8 | KQ2V06-G01□ | 8 | 10.4 | 13.4 | 20.5 | 13 | 24.9 | 19.4 | 13.3 | 7.5 | 5.9 | 4.5 | 13.2 |
| | 1/4 | KQ2V06-G02□ | 10 | 10.4 | 18 | 19.9 | 15 | 27.6 | 21.1 | 13.3 | 7.5 | 5.9 | 4.5 | 22.7 |
| ø8 | 1/8 | KQ2V08-G01□ | 12 | 13.2 | 17.6 | 23.5 | 15 | 27.5 | 22 | 14.2 | 16 | 11.2 | 5 | 24.5 |
| | 1/4 | KQ2V08-G02□ | 12 | 13.2 | 18 | 23.5 | 15.6 | 28.1 | 21.6 | 14.2 | 16 | 11.2 | 6 | 26.8 |
| | 3/8 | KQ2V08-G03□ | 14 | 13.2 | 22 | 23.1 | 17.3 | 33.1 | 25.6 | 14.2 | 16 | 11.2 | 7.5 | 42.1 |
| ø10 | 1/4 | KQ2V10-G02□ | 14 | 15.9 | 20.6 | 25.9 | 17.9 | 32.9 | 26.4 | 15.6 | 27 | 20.3 | 7.5 | 37.5 |
| | 3/8 | KQ2V10-G03□ | 14 | 15.9 | 22 | 25.9 | 18.1 | 33.1 | 25.6 | 15.6 | 27 | 20.3 | 7.5 | 43.4 |
| ø12 | 3/8 | KQ2V12-G03□ | 17 | 18.5 | 25.2 | 28.5 | 20.5 | 36.7 | 29.2 | 17 | 39 | 30.8 | 9 | 60.5 |
| | 1/2 | KQ2V12-G04□ | 17 | 18.5 | 26 | 28.5 | 21.1 | 37.3 | 28.3 | 17 | 39 | 30.8 | 9 | 71 |
| ø16 | 3/8 | KQ2V16-G03□ | 21 | 23.8 | 32.3 | 34.2 | 24.2 | 44.5 | 37 | 20.6 | 55 | 46 | 11 | 101.7 |
| | 1/2 | KQ2V16-G04□ | 21 | 23.8 | 32.3 | 34.2 | 26.2 | 46.5 | 37.5 | 20.6 | 78 | 46 | 13 | 106.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



## Dimensions

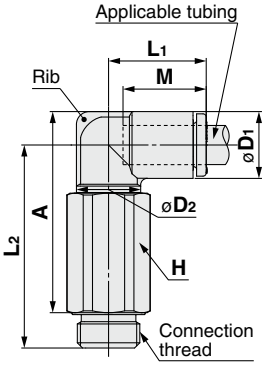
### Extended Male Elbow: KQ2W (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2W04-G01□ | 12 | 8.2 | 10 | 14.8 | 30.5 | 29.1 | 13.3 | 4 | 4 | 3 | 16.5 | ● |
| | 1/4 | KQ2W04-G02□ | 17 | 8.2 | 10 | 14.8 | 31.2 | 28.8 | 13.3 | 4 | 4 | 3 | 35.8 | ● |
| ø6 | 1/8 | KQ2W06-G01□ | 12 | 10.4 | 10 | 15.5 | 31.6 | 31.3 | 13.3 | 10.9 | 8.6 | 4.5 | 17 | — |
| | 1/4 | KQ2W06-G02□ | 17 | 10.4 | 10 | 15.5 | 32.3 | 31 | 13.3 | 10.9 | 8.6 | 4.5 | 36.2 | — |
| | 3/8 | KQ2W06-G03□ | 21 | 10.4 | 10 | 15.5 | 33.3 | 31 | 13.3 | 10.9 | 8.6 | 4.5 | 59.4 | — |
| ø8 | 1/8 | KQ2W08-G01□ | 12 | 13.2 | 10 | 16.4 | 33 | 34.1 | 14.2 | 10.9 | 10.9 | 4.5 | 17.8 | ● |
| | 1/4 | KQ2W08-G02□ | 17 | 13.2 | 12 | 17.2 | 36.5 | 36.6 | 14.2 | 20.5 | 14.2 | 6 | 37.5 | ● |
| | 3/8 | KQ2W08-G03□ | 21 | 13.2 | 12 | 17.2 | 37.5 | 36.6 | 14.2 | 20.5 | 14.2 | 6 | 63.9 | ● |
| ø10 | 1/4 | KQ2W10-G02□ | 17 | 15.9 | 17 | 19.3 | 48.8 | 50.3 | 15.6 | 33.5 | 23.8 | 7.5 | 45.1 | ● |
| | 3/8 | KQ2W10-G03□ | 21 | 15.9 | 17 | 19.3 | 46.6 | 47.1 | 15.6 | 33.5 | 23.8 | 7.5 | 62.6 | ● |
| | 1/2 | KQ2W10-G04□ | 27 | 15.9 | 17 | 19.3 | 48.1 | 47.1 | 15.6 | 33.5 | 23.8 | 7.5 | 120.2 | ● |
| ø12 | 1/4 | KQ2W12-G02□ | 17 | 18.5 | 17 | 21.5 | 50.1 | 52.9 | 17 | 47.7 | 37.7 | 9 | 46.9 | ● |
| | 3/8 | KQ2W12-G03□ | 21 | 18.5 | 17 | 21.5 | 47.9 | 49.7 | 17 | 47.7 | 37.7 | 9 | 64.5 | ● |
| | 1/2 | KQ2W12-G04□ | 27 | 18.5 | 17 | 21.5 | 49.4 | 49.7 | 17 | 47.7 | 37.7 | 9 | 122.1 | ● |
| ø16 | 3/8 | KQ2W16-G03□ | 21 | 23.8 | 21 | 27.1 | 57.4 | 61.8 | 20.6 | 71 | 58.9 | 11 | 71.7 | — |
| | 1/2 | KQ2W16-G04□ | 27 | 23.8 | 21 | 27.1 | 58.1 | 61 | 20.6 | 100 | 58.9 | 13 | 144.1 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



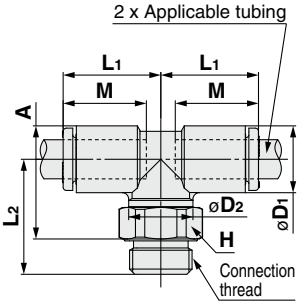

### Male Branch Tee: KQ2T (Face seal)



| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2T04-G01□ | 12 | 8.2 | 10 | 14.8 | 16.8 | 15.4 | 13.3 | 6 | 4.1 | 3 | 7 |
| | 1/4 | KQ2T04-G02□ | 17 | 8.2 | 10 | 14.8 | 20.3 | 17.9 | 13.3 | 6 | 4.1 | 3 | 17.4 |
| ø6 | 1/8 | KQ2T06-G01□ | 12 | 10.4 | 10 | 15.5 | 17.9 | 17.6 | 13.3 | 13.9 | 11 | 4.5 | 7.6 |
| | 1/4 | KQ2T06-G02□ | 17 | 10.4 | 10 | 15.5 | 21.4 | 20.1 | 13.3 | 13.9 | 11 | 4.5 | 18.1 |
| | 3/8 | KQ2T06-G03□ | 21 | 10.4 | 10 | 15.5 | 22.4 | 20.1 | 13.3 | 13.9 | 11 | 4.5 | 29.8 |
| ø8 | 1/8 | KQ2T08-G01□ | 12 | 13.2 | 10 | 16.4 | 19.3 | 20.4 | 14.2 | 14 | 14 | 4.5 | 9.4 |
| | 1/4 | KQ2T08-G02□ | 17 | 13.2 | 12 | 17.2 | 22.8 | 22.9 | 14.2 | 26.3 | 18.2 | 6 | 17.6 |
| | 3/8 | KQ2T08-G03□ | 21 | 13.2 | 12 | 17.2 | 23.8 | 22.9 | 14.2 | 26.3 | 18.2 | 6 | 29.6 |
| ø10 | 1/8 | KQ2T10-G01□ | 12 | 15.9 | 12 | 18.6 | 22.4 | 24.9 | 15.6 | 21.6 | 14.9 | 6 | 13.1 |
| | 1/4 | KQ2T10-G02□ | 17 | 15.9 | 17 | 19.3 | 24.5 | 26 | 15.6 | 35.2 | 25 | 7.5 | 20.1 |
| | 3/8 | KQ2T10-G03□ | 21 | 15.9 | 17 | 19.3 | 27.6 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 25.3 |
| | 1/2 | KQ2T10-G04□ | 27 | 15.9 | 17 | 19.3 | 29.1 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 45.2 |
| ø12 | 1/4 | KQ2T12-G02□ | 17 | 18.5 | 17 | 21.5 | 25.8 | 28.6 | 17 | 57.2 | 45.2 | 9 | 23.1 |
| | 3/8 | KQ2T12-G03□ | 21 | 18.5 | 17 | 21.5 | 28.9 | 30.7 | 17 | 57.2 | 45.2 | 9 | 28.4 |
| | 1/2 | KQ2T12-G04□ | 27 | 18.5 | 17 | 21.5 | 30.4 | 30.7 | 17 | 57.2 | 45.2 | 9 | 48.3 |
| ø16 | 3/8 | KQ2T16-G03□ | 21 | 23.8 | 21 | 27.1 | 33.1 | 37.5 | 20.6 | 71 | 58.9 | 11 | 42.1 |
| | 1/2 | KQ2T16-G04□ | 27 | 23.8 | 21 | 27.1 | 33.8 | 36.7 | 20.6 | 100 | 58.9 | 13 | 65.7 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



## Dimensions

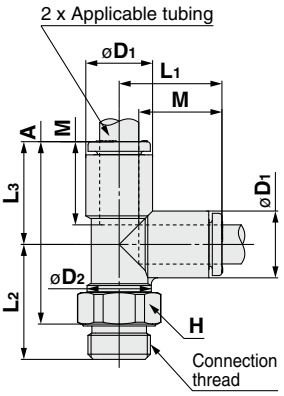
### Male Run Tee: KQ2Y (Face seal)



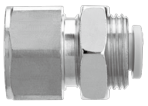
| Applicable tubing O.D. [mm] | Connection thread G | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Y04-G01□ | 12 | 8.2 | 10 | 15.3 | 16.8 | 15.3 | 26.6 | 13.3 | 6.4 | 4.4 | 3 | 7 |
| | 1/4 | KQ2Y04-G02□ | 17 | 8.2 | 10 | 15.3 | 20.3 | 15.3 | 29.1 | 13.3 | 6.4 | 4.4 | 3 | 17.5 |
| ø6 | 1/8 | KQ2Y06-G01□ | 12 | 10.4 | 10 | 16.3 | 17.9 | 16.3 | 28.7 | 13.3 | 13.4 | 10.6 | 4.5 | 7.7 |
| | 1/4 | KQ2Y06-G02□ | 17 | 10.4 | 10 | 16.3 | 21.4 | 16.3 | 31.2 | 13.3 | 13.4 | 10.6 | 4.5 | 18.2 |
| | 3/8 | KQ2Y06-G03□ | 21 | 10.4 | 10 | 16.3 | 22.4 | 16.3 | 31.2 | 13.3 | 13.4 | 10.6 | 4.5 | 29.9 |
| ø8 | 1/8 | KQ2Y08-G01□ | 12 | 13.2 | 10 | 18.2 | 19.3 | 18.2 | 32 | 14.2 | 13.4 | 13.4 | 4.5 | 9.5 |
| | 1/4 | KQ2Y08-G02□ | 17 | 13.2 | 12 | 18.2 | 22.8 | 18.2 | 34.5 | 14.2 | 25.6 | 17.7 | 6 | 17.7 |
| | 3/8 | KQ2Y08-G03□ | 21 | 13.2 | 12 | 18.2 | 23.8 | 18.2 | 34.5 | 14.2 | 25.6 | 17.7 | 6 | 29.7 |
| ø10 | 1/8 | KQ2Y10-G01□ | 12 | 15.9 | 12 | 20.6 | 22.5 | 20.6 | 37.5 | 15.6 | 40 | 28.4 | 6 | 13.2 |
| | 1/4 | KQ2Y10-G02□ | 17 | 15.9 | 17 | 20.6 | 24.6 | 20.6 | 38.6 | 15.6 | 40 | 28.4 | 7.5 | 20.3 |
| | 3/8 | KQ2Y10-G03□ | 21 | 15.9 | 17 | 20.6 | 27.7 | 20.6 | 40.7 | 15.6 | 40 | 28.4 | 7.5 | 25.4 |
| | 1/2 | KQ2Y10-G04□ | 27 | 15.9 | 17 | 20.6 | 29.2 | 20.6 | 40.7 | 15.6 | 40 | 28.4 | 7.5 | 45.3 |
| ø12 | 1/4 | KQ2Y12-G02□ | 17 | 18.5 | 17 | 23 | 25.9 | 23 | 42.3 | 17 | 57.4 | 45.4 | 9 | 23.4 |
| | 3/8 | KQ2Y12-G03□ | 21 | 18.5 | 17 | 23 | 29 | 23 | 44.4 | 17 | 57.4 | 45.4 | 9 | 28.6 |
| | 1/2 | KQ2Y12-G04□ | 27 | 18.5 | 17 | 23 | 30.4 | 23 | 44.4 | 17 | 57.4 | 45.4 | 9 | 48.5 |
| ø16 | 3/8 | KQ2Y16-G03□ | 21 | 23.8 | 21 | 28.6 | 33.1 | 28.6 | 54.2 | 20.6 | 81 | 60 | 11 | 42.7 |
| | 1/2 | KQ2Y16-G04□ | 27 | 23.8 | 21 | 28.6 | 33.8 | 28.6 | 53.4 | 20.6 | 113 | 60 | 13 | 66.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.

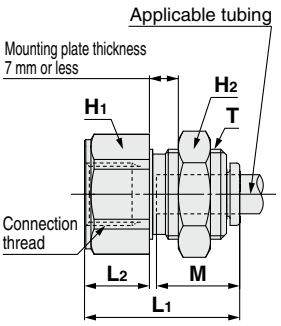



### Bulkhead Connector: KQ2E



| Applicable tubing O.D. [mm] | Connection thread G | Model | T (M) | H1 (Width across flats) | H2 (Width across flats) | L1 | L2 | Mounting hole | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2E04-G01□ | M12 x 1 | 14 | 14 | 25.1 | 10.7 | 13 | 13.3 | 5.6 | 4 | 3 | 21.3 |
| | 1/4 | KQ2E04-G02□ | M12 x 1 | 17 | 14 | 30.7 | 16.3 | 13 | 13.3 | 5.6 | 4 | 3 | 31.5 |
| ø6 | 1/8 | KQ2E06-G01□ | M14 x 1 | 17 | 17 | 24.5 | 10.1 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 29.8 |
| | 1/4 | KQ2E06-G02□ | M14 x 1 | 17 | 17 | 30 | 15.6 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 32.8 |
| | 3/8 | KQ2E06-G03□ | M14 x 1 | 21 | 17 | 32 | 17.6 | 15 | 13.3 | 13.1 | 10.4 | 4.5 | 45.5 |
| ø8 | 1/8 | KQ2E08-G01□ | M16 x 1 | 17 | 19 | 24.7 | 7.3 | 17 | 14.2 | 26.1 | 18 | 6 | 30.9 |
| | 1/4 | KQ2E08-G02□ | M16 x 1 | 17 | 19 | 30 | 12.6 | 17 | 14.2 | 26.1 | 18 | 6 | 33.5 |
| | 3/8 | KQ2E08-G03□ | M16 x 1 | 21 | 19 | 33.1 | 15.7 | 17 | 14.2 | 26.1 | 18 | 6 | 46.1 |
| ø10 | 1/4 | KQ2E10-G02□ | M20 x 1 | 22 | 24 | 31 | 11.6 | 21 | 15.6 | 41.5 | 29.5 | 7.5 | 66.7 |
| | 3/8 | KQ2E10-G03□ | M20 x 1 | 22 | 24 | 32.5 | 13.1 | 21 | 15.6 | 41.5 | 29.5 | 7.5 | 61.6 |
| ø12 | 3/8 | KQ2E12-G03□ | M22 x 1 | 24 | 27 | 33.5 | 13.1 | 23 | 17 | 58.3 | 46.1 | 9 | 70.4 |
| | 1/2 | KQ2E12-G04□ | M22 x 1 | 27 | 27 | 39.9 | 19.5 | 23 | 17 | 58.3 | 46.1 | 9 | 94 |
| ø16 | 3/8 | KQ2E16-G03□ | M28 x 1.5 | 30 | 32 | 35.9 | 13 | 29 | 20.6 | 96 | 67 | 13 | 127.6 |
| | 1/2 | KQ2E16-G04□ | M28 x 1.5 | 30 | 32 | 41 | 18.1 | 29 | 20.6 | 113 | 67 | 13 | 137.2 |

□: A (Brass), N (Brass + Electroless nickel plating)



# *KQ2 Series*
# Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Spare Parts

### Brass

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01A** | KQ2E04-G01A, KQ2E04-G02A |
| | **KQ06-P01A** | KQ2E06-G01A, KQ2E06-G02A, KQ2E06-G03A |
| | **KQ08-P01A** | KQ2E08-G01A, KQ2E08-G02A, KQ2E08-G03A |
| | **KQ10-P01A** | KQ2E10-G02A, KQ2E10-G03A |
| | **KQ12-P01A** | KQ2E12-G03A, KQ2E12-G04A |
| | **KQ16-P01A** | KQ2E16-G03A, KQ2E16-G04A |

### Brass + Electroless nickel plating

| Description | Part no. | Applicable model |
|---|---|---|
| Pipe nut | **KQ04-P01N** | KQ2E04-G01N, KQ2E04-G02N |
| | **KQ06-P01N** | KQ2E06-G01N, KQ2E06-G02N, KQ2E06-G03N |
| | **KQ08-P01N** | KQ2E08-G01N, KQ2E08-G02N, KQ2E08-G03N |
| | **KQ10-P01N** | KQ2E10-G02N, KQ2E10-G03N |
| | **KQ12-P01N** | KQ2E12-G03N, KQ2E12-G04N |
| | **KQ16-P01N** | KQ2E16-G03N, KQ2E16-G04N |

# Metric Size One-touch Fittings

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

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

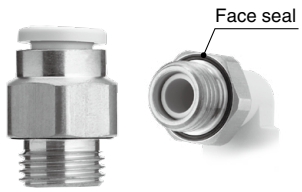
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

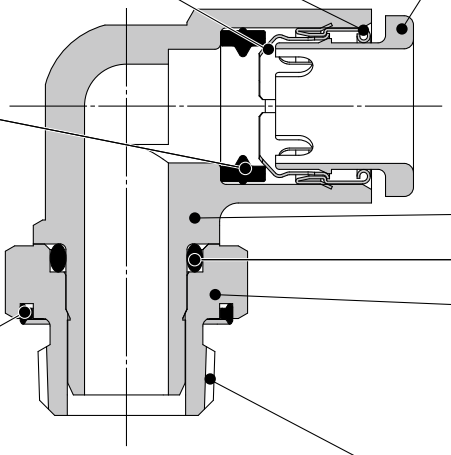
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

R, Rc

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

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

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping)<br>JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 06 – 01 A P**

**One-touch fittings**

**Face seal**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **LU** | Branch male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **Z** | Branch universal male elbow |
| **ZF** | Branch universal female elbow |
| **ZD** | Double branch universal male elbow |
| **ZT** | Triple branch universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **D** | Male delta union |
| **U** | Branch "Y" |
| **UD** | Double branch "Y" |
| **N** | Adapter |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **01** | R1/8, Rc1/8 |
| | **02** | R1/4, Rc1/4 |
| | **03** | R3/8, Rc3/8 |
| | **04** | R1/2, Rc1/2 |

**Applicable tubing O.D.**

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

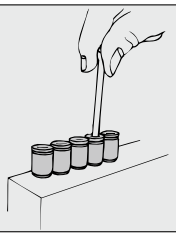
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Round Type Variations

**Hexagon socket head male connector**
**KQ2S** P.176



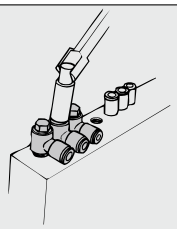
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.178



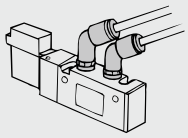
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.178



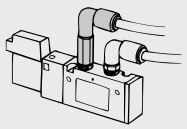
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.181



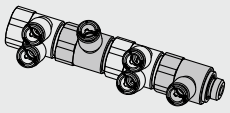
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Universal female elbow**
**KQ2VF** P.179



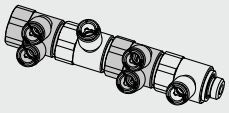
Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



**Branch universal female elbow**
**KQ2ZF** P.180



Use to two-branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



**Male connector**
**KQ2H** P.176



Use to pipe a female thread in the same direction. Most general model.

**Double universal male elbow**
**KQ2VD** P.179



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Triple branch universal male elbow**
**KQ2ZT** P.181



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

**Male elbow**
**KQ2L** P.177



Use to pipe a female thread at right angles. Most general model.

**Triple universal male elbow**
**KQ2VT** P.179



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

**Male delta union**
**KQ2D** P.183



Use to branch a female thread at two right angles.

**Male branch tee**
**KQ2T** P.182



Use to branch a female thread at both 90° angles.

**Branch universal male elbow**
**KQ2Z** P.180



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

**Double branch "Y"**
**KQ2UD** P.184



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

**Hexagon socket head universal male elbow**
**KQ2VS** P.178



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Double branch universal male elbow**
**KQ2ZD** P.180



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

**Branch "Y"**
**KQ2U** P.183



Use to branch a female thread in the same direction.

**Branch male elbow**
**KQ2LU** P.177



Use to two-branch a female thread at right angles.

**Male run tee**
**KQ2Y** P.182



Use to branch a female thread in the same direction and at a 90° angle.

**Adapter**
**KQ2N** P.184



Use to connect One-touch fittings and R female threads.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 103 and after for details.**

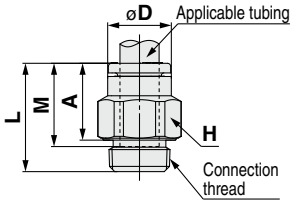
## Dimensions

### Male Connector: KQ2H (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2H23-01□P | 12 | 6.7 | 14.1 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6.3 |
| | 1/4 | KQ2H23-02□P | 17 | 6.7 | 15 | 7.4 | 13.3 | 3.4 | 2.9 | 2.5 | 15.1 |
| ø4 | 1/8 | KQ2H04-01□P | 12 | 7.7 | 16.4 | 11.2 | 13.3 | 4.8 | 3.4 | 3 | 6.9 |
| | 1/4 | KQ2H04-02□P | 17 | 7.7 | 15 | 7.4 | 13.3 | 4.8 | 3.4 | 3 | 14.5 |
| ø6 | 1/8 | KQ2H06-01□P | 12 | 9.7 | 17.2 | 12 | 13.3 | 13.1 | 10.4 | 4.5 | 6.5 |
| | 1/4 | KQ2H06-02□P | 17 | 9.7 | 14 | 6.4 | 13.3 | 13.1 | 10.4 | 4.5 | 10.6 |
| | 3/8 | KQ2H06-03□P | 21 | 9.7 | 15.2 | 7.6 | 13.3 | 13.1 | 10.4 | 4.5 | 22.8 |
| ø8 | 1/8 | KQ2H08-01□P | 14 | 13 | 21.1 | 15.9 | 14.2 | 26.1 | 18 | 6 | 11.8 |
| | 1/4 | KQ2H08-02□P | 17 | 13 | 19.9 | 12.3 | 14.2 | 26.1 | 18 | 6 | 13.9 |
| | 3/8 | KQ2H08-03□P | 21 | 13 | 15.2 | 7.6 | 14.2 | 26.1 | 18 | 6 | 19.6 |
| ø10 | 1/8 | KQ2H10-01□P | 17 | 15.6 | 22.9 | 17.7 | 15.6 | 26.1 | 26.1 | 6 | 16.3 |
| | 1/4 | KQ2H10-02□P | 17 | 15.6 | 24.4 | 16.8 | 15.6 | 41.5 | 29.5 | 7.5 | 17.9 |
| | 3/8 | KQ2H10-03□P | 21 | 15.6 | 21.2 | 13.6 | 15.6 | 41.5 | 29.5 | 7.5 | 23.7 |
| | 1/2 | KQ2H10-04□P | 27 | 15.6 | 18.8 | 8.4 | 15.6 | 41.5 | 29.5 | 7.5 | 40.9 |
| ø12 | 1/4 | KQ2H12-02□P | 19 | 18.2 | 26.6 | 19 | 17 | 58.3 | 46.1 | 9 | 22 |
| | 3/8 | KQ2H12-03□P | 21 | 18.2 | 25.1 | 17.5 | 17 | 58.3 | 46.1 | 9 | 28.6 |
| | 1/2 | KQ2H12-04□P | 27 | 18.2 | 25.1 | 14.7 | 17 | 58.3 | 46.1 | 9 | 45 |
| ø16 | 1/4 | KQ2H16-02□P | 24 | 23.6 | 30.6 | 23 | 20.6 | 58.3 | 58.3 | 9 | 42.5 |
| | 3/8 | KQ2H16-03□P | 24 | 23.6 | 30.6 | 23 | 20.6 | 81 | 67 | 11 | 39.2 |
| | 1/2 | KQ2H16-04□P | 27 | 23.6 | 32.1 | 21.7 | 20.6 | 113 | 67 | 13 | 55 |

□: A (Brass), N (Brass + Electroless nickel plating)



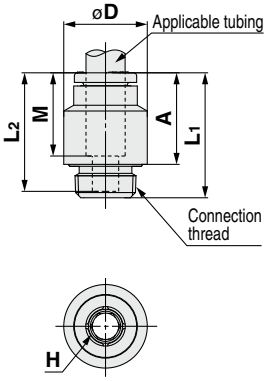

### Hexagon Socket Head Male Connector: KQ2S (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø*1D | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-01□P | 3 | 13 | 20.6 | 19.6 | 15.4 | 13.3 | 4.1 | 3.6 | 3.1 | 11.6 |
| ø6 | 1/8 | KQ2S06-01□P | 4 | 13 | 19.8 | 18.8 | 14.6 | 13.3 | 10 | 10 | 4 | 9.6 |
| | 1/4 | KQ2S06-02□P | 4 | 18 | 19.8 | 18.8 | 12.2 | 13.3 | 10.7 | 10 | 4.1 | 16.3 |
| ø8 | 1/8 | KQ2S08-01□P | 5 | 13 | 21.2 | 19.7 | 16 | 14.2 | 17.2 | 16.2 | 5.1 | 9 |
| | 1/4 | KQ2S08-02□P | 6 | 18 | 20.4 | 19.5 | 12.8 | 14.2 | 23.3 | 16.2 | 6.1 | 15.5 |
| | 3/8 | KQ2S08-03□P | 6 | 22 | 20.7 | 19.7 | 13.1 | 14.2 | 23.3 | 16.2 | 6.1 | 26.3 |
| ø10 | 1/8 | KQ2S10-01□P | 5 | 18 | 23 | 21.1 | 17.8 | 15.6 | 17.2 | 16.2 | 5.1 | 17.8 |
| | 1/4 | KQ2S10-02□P | 8 | 18 | 28.8 | 20.1 | 21.2 | 15.6 | 39 | 26.6 | 8.1 | 19.2 |
| | 3/8 | KQ2S10-03□P | 8 | 22 | 21.1 | 20.1 | 13.5 | 15.6 | 39 | 26.6 | 8.1 | 23.4 |
| | 1/2 | KQ2S10-04□P | 8 | 26 | 21.1 | 20.1 | 10.7 | 15.6 | 39 | 26.6 | 8.1 | 40.6 |
| ø12 | 1/4 | KQ2S12-02□P | 8 | 18.2 | 30.2 | 21.5 | 22.6 | 17 | 46 | 44.5 | 8.1 | 24.3 |
| | 3/8 | KQ2S12-03□P | 10 | 22 | 25.1 | 21.8 | 17.5 | 17 | 60 | 44.5 | 10.1 | 28.2 |
| | 1/2 | KQ2S12-04□P | 10 | 26 | 25.2 | 21.8 | 14.8 | 17 | 60 | 44.5 | 10.1 | 40.7 |
| ø16 | 1/4 | KQ2S16-02□P | 8 | 23.6 | 30.6 | 25.1 | 23 | 20.6 | 46 | 46 | 8.1 | 35.1 |
| | 3/8 | KQ2S16-03□P | 10 | 23.6 | 30.6 | 25.4 | 23 | 20.6 | 81 | 67 | 10.1 | 27.9 |
| | 1/2 | KQ2S16-04□P | 12 | 26 | 32.1 | 26.1 | 21.7 | 20.6 | 113 | 67 | 12.1 | 48.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



## Dimensions

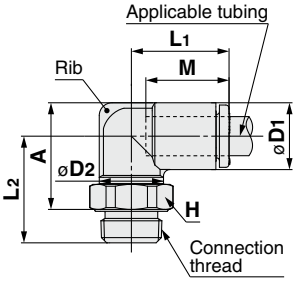
### Male Elbow: KQ2L (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2L23-01□P | 12 | 7.1 | 10 | 14.5 | 16 | 14.3 | 13.3 | 3 | 2.5 | 2.5 | 5.1 | — |
| | 1/4 | KQ2L23-02□P | 17 | 7.1 | 10 | 14.5 | 19.4 | 15.3 | 13.3 | 3 | 2.5 | 2.5 | 14.3 | — |
| ø4 | 1/8 | KQ2L04-01□P | 12 | 8.2 | 10 | 14.8 | 15.5 | 14.4 | 13.3 | 4.6 | 3.3 | 3 | 5.2 | ● |
| | 1/4 | KQ2L04-02□P | 17 | 8.2 | 10 | 14.8 | 19.9 | 16.4 | 13.3 | 4.6 | 3.3 | 3 | 14.5 | ● |
| ø6 | 1/8 | KQ2L06-01□P | 12 | 10.4 | 10 | 15.5 | 16.6 | 16.6 | 13.3 | 11.4 | 9 | 4.5 | 5.7 | — |
| | 1/4 | KQ2L06-02□P | 17 | 10.4 | 10 | 15.5 | 21 | 18.6 | 13.3 | 11.4 | 9 | 4.5 | 15 | — |
| | 3/8 | KQ2L06-03□P | 21 | 10.4 | 10 | 15.5 | 23 | 20.6 | 13.3 | 11.4 | 9 | 4.5 | 30.2 | — |
| ø8 | 1/8 | KQ2L08-01□P | 12 | 13.2 | 10 | 16.4 | 18 | 19.4 | 14.2 | 11.4 | 11.4 | 4.5 | 6.5 | ● |
| | 1/4 | KQ2L08-02□P | 17 | 13.2 | 12 | 17.2 | 22.4 | 21.4 | 14.2 | 21.6 | 14.9 | 6 | 13.7 | ● |
| | 3/8 | KQ2L08-03□P | 21 | 13.2 | 12 | 17.2 | 24.4 | 23.4 | 14.2 | 21.6 | 14.9 | 6 | 28.7 | ● |
| ø10 | 1/8 | KQ2L10-01□P | 12 | 15.9 | 12 | 18.6 | 22.2 | 24.9 | 15.6 | 21.6 | 14.9 | 6 | 10.1 | ● |
| | 1/4 | KQ2L10-02□P | 17 | 15.9 | 17 | 19.3 | 25.7 | 26.0 | 15.6 | 35.2 | 25 | 7.5 | 17.9 | ● |
| | 3/8 | KQ2L10-03□P | 21 | 15.9 | 17 | 19.3 | 25.8 | 26.1 | 15.6 | 35.2 | 25 | 7.5 | 17.8 | ● |
| | 1/2 | KQ2L10-04□P | 27 | 15.9 | 17 | 19.3 | 30.6 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 45.1 | ● |
| ø12 | 1/4 | KQ2L12-02□P | 17 | 18.5 | 17 | 21.5 | 27 | 28.6 | 17 | 50.2 | 39.7 | 9 | 19.6 | ● |
| | 3/8 | KQ2L12-03□P | 21 | 18.5 | 17 | 21.5 | 27.1 | 28.7 | 17 | 50.2 | 39.7 | 9 | 19.7 | ● |
| | 1/2 | KQ2L12-04□P | 27 | 18.5 | 17 | 21.5 | 31.9 | 30.7 | 17 | 50.2 | 39.7 | 9 | 47 | ● |
| ø16 | 1/4 | KQ2L16-02□P | 17 | 23.8 | 17 | 25.1 | 29.6 | 33.9 | 20.6 | 50.2 | 50.2 | 9 | 24 | ● |
| | 3/8 | KQ2L16-03□P | 21 | 23.8 | 21 | 27.1 | 32.7 | 37.0 | 20.6 | 71 | 58.9 | 11 | 33.8 | — |
| | 1/2 | KQ2L16-04□P | 27 | 23.8 | 21 | 27.1 | 34.7 | 36.2 | 20.6 | 100 | 58.9 | 13 | 59.9 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



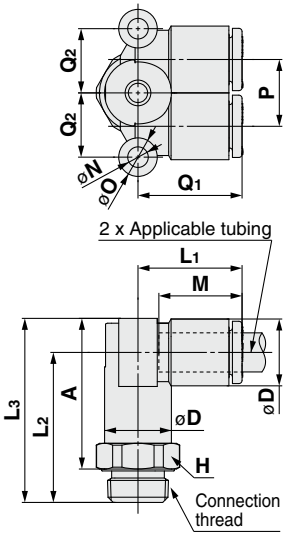

### Branch Male Elbow: KQ2LU (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD | L1 | L2 | L3 | A | M | P | O | N | Q1 | Q2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2LU04-01□P | 12 | 8.2 | 15.8 | 22.6 | 26.7 | 21.5 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 6 | 4.1 | 3 | 9.5 |
| | 1/4 | KQ2LU04-02□P | 17 | 8.2 | 15.8 | 26 | 30.1 | 22.5 | 13.3 | 8.2 | 6 | 3.2 | 15.8 | 7.9 | 6 | 4.1 | 3 | 19.4 |
| ø6 | 1/8 | KQ2LU06-01□P | 12 | 10.4 | 16.5 | 23.3 | 28.5 | 23.3 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 10.2 |
| | 1/4 | KQ2LU06-02□P | 17 | 10.4 | 16.5 | 26.7 | 31.9 | 24.3 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 19.8 |
| | 3/8 | KQ2LU06-03□P | 21 | 10.4 | 16.5 | 26.2 | 31.4 | 23.8 | 13.3 | 10.4 | 6 | 3.2 | 16.5 | 10 | 13.9 | 11 | 4.5 | 28.1 |
| ø8 | 1/8 | KQ2LU08-01□P | 14 | 13.2 | 18.2 | 25 | 31.6 | 26.4 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 16.4 |
| | 1/4 | KQ2LU08-02□P | 17 | 13.2 | 18.2 | 28.4 | 35 | 27.4 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 22 |
| | 3/8 | KQ2LU08-03□P | 21 | 13.2 | 18.2 | 27.9 | 34.5 | 26.9 | 14.2 | 13.2 | 8 | 4.2 | 18.2 | 13.1 | 26.3 | 18.2 | 6 | 30.4 |
| ø10 | 1/4 | KQ2LU10-02□P | 17 | 15.9 | 20.3 | 30.5 | 38.5 | 30.9 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 24.9 |
| | 3/8 | KQ2LU10-03□P | 21 | 15.9 | 20.3 | 30 | 38 | 30.4 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 32.4 |
| | 1/2 | KQ2LU10-04□P | 27 | 15.9 | 20.3 | 32.3 | 40.3 | 29.9 | 15.6 | 15.9 | 8 | 4.2 | 20.3 | 15.9 | 40.8 | 29 | 7.5 | 50.5 |
| ø12 | 1/4 | KQ2LU12-02□P | 21 | 18.5 | 22.5 | 32.7 | 41.9 | 34.3 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 39.3 |
| | 3/8 | KQ2LU12-03□P | 21 | 18.5 | 22.5 | 32.2 | 41.4 | 33.8 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 37 |
| | 1/2 | KQ2LU12-04□P | 27 | 18.5 | 22.5 | 34.5 | 43.7 | 33.3 | 17 | 18.5 | 8 | 4.2 | 22.5 | 17.9 | 57.2 | 45.2 | 9 | 52.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD is maximum diameter.



## Dimensions

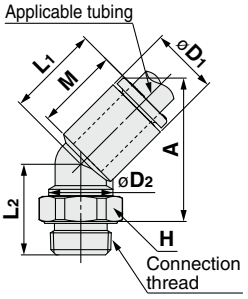
### 45° Male Elbow: KQ2K (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-01□P | 12 | 8.2 | 10 | 14.4 | 12 | 19.5 | 13.3 | 4.8 | 3.4 | 3 | 5.1 |
| | 1/4 | KQ2K04-02□P | 17 | 8.2 | 10 | 14.4 | 15.4 | 20.5 | 13.3 | 4.8 | 3.4 | 3 | 14.3 |
| ø6 | 1/8 | KQ2K06-01□P | 12 | 10.4 | 10 | 14.7 | 14.1 | 22.5 | 13.3 | 8.7 | 6.9 | 4.5 | 5.5 |
| | 1/4 | KQ2K06-02□P | 17 | 10.4 | 10 | 14.7 | 17.5 | 23.5 | 13.3 | 8.7 | 6.9 | 4.5 | 14.7 |
| | 3/8 | KQ2K06-03□P | 21 | 10.4 | 10 | 14.7 | 19.5 | 25.5 | 13.3 | 8.7 | 6.9 | 4.5 | 29.9 |
| ø8 | 1/8 | KQ2K08-01□P | 12 | 13.2 | 10 | 16 | 15 | 25.2 | 14.2 | 8.7 | 8.7 | 4.5 | 6.4 |
| | 1/4 | KQ2K08-02□P | 17 | 13.2 | 12 | 16 | 19.4 | 27.2 | 14.2 | 19.7 | 19.7 | 6 | 13.5 |
| | 3/8 | KQ2K08-03□P | 21 | 13.2 | 12 | 16 | 21.4 | 29.2 | 14.2 | 19.7 | 19.7 | 6 | 28.5 |
| ø10 | 1/8 | KQ2K10-01□P | 12 | 15.9 | 12 | 18.2 | 20.1 | 32.7 | 15.6 | 30.9 | 23.2 | 6 | 10.1 |
| | 1/4 | KQ2K10-02□P | 17 | 15.9 | 17 | 17.6 | 26.1 | 35.9 | 15.6 | 30.9 | 23.2 | 7.5 | 18 |
| | 3/8 | KQ2K10-03□P | 21 | 15.9 | 17 | 17.6 | 20.5 | 30.3 | 15.6 | 30.9 | 23.2 | 7.5 | 17.3 |
| | 1/2 | KQ2K10-04□P | 27 | 15.9 | 17 | 17.6 | 25.3 | 32.3 | 15.6 | 30.9 | 23.2 | 7.5 | 44.6 |
| ø12 | 1/4 | KQ2K12-02□P | 17 | 18.5 | 17 | 19.4 | 26 | 37.9 | 17 | 44.5 | 35.1 | 9 | 19.5 |
| | 3/8 | KQ2K12-03□P | 21 | 18.5 | 17 | 19.4 | 20.4 | 32.3 | 17 | 44.5 | 35.1 | 9 | 18.8 |
| | 1/2 | KQ2K12-04□P | 27 | 18.5 | 17 | 19.4 | 25.2 | 34.3 | 17 | 44.5 | 35.1 | 9 | 46.1 |
| ø16 | 1/4 | KQ2K16-02□P | 17 | 23.8 | 17 | 24.3 | 26.6 | 43.3 | 20.6 | 44.5 | 44.5 | 9 | 23.9 |
| | 3/8 | KQ2K16-03□P | 21 | 23.8 | 21 | 23.8 | 28.7 | 45 | 20.6 | 65.8 | 58 | 11 | 32.2 |
| | 1/2 | KQ2K16-04□P | 27 | 23.8 | 21 | 23.8 | 30.7 | 44.2 | 20.6 | 91.9 | 58 | 13 | 58.3 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



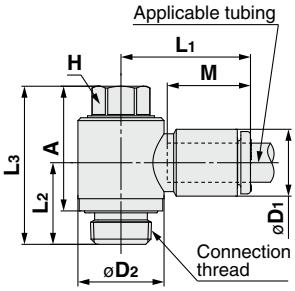

### Universal Male Elbow: KQ2V (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-01□P | 8 | 8.2 | 13.4 | 19.3 | 12.7 | 24.6 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 12.6 |
| ø6 | 1/8 | KQ2V06-01□P | 8 | 10.4 | 13.4 | 20.5 | 12.7 | 24.6 | 19.4 | 13.3 | 7.5 | 5.9 | 4.5 | 12.9 |
| | 1/4 | KQ2V06-02□P | 10 | 10.4 | 18 | 19.9 | 16.1 | 28.7 | 21.1 | 13.3 | 7.5 | 5.9 | 4.5 | 23.2 |
| ø8 | 1/8 | KQ2V08-01□P | 12 | 13.2 | 17.6 | 23.5 | 14.1 | 26.6 | 21.4 | 14.2 | 16 | 11.2 | 6 | 22.7 |
| | 1/4 | KQ2V08-02□P | 12 | 13.2 | 18 | 23.5 | 16.7 | 29.2 | 21.6 | 14.2 | 16 | 11.2 | 6 | 27.2 |
| | 3/8 | KQ2V08-03□P | 14 | 13.2 | 22 | 23.1 | 17.4 | 33.2 | 25.6 | 14.2 | 16 | 11.2 | 6 | 42.1 |
| ø10 | 1/4 | KQ2V10-02□P | 14 | 15.9 | 20.6 | 25.9 | 18.1 | 33.1 | 25.5 | 15.6 | 27 | 20.3 | 7.5 | 36.5 |
| | 3/8 | KQ2V10-03□P | 14 | 15.9 | 22 | 25.9 | 18.2 | 33.2 | 25.6 | 15.6 | 27 | 20.3 | 7.5 | 43.4 |
| ø12 | 3/8 | KQ2V12-03□P | 17 | 18.5 | 25.2 | 28.5 | 19.3 | 35.5 | 27.9 | 17 | 39 | 30.8 | 9 | 56.7 |
| | 1/2 | KQ2V12-04□P | 17 | 18.5 | 26 | 28.5 | 22.6 | 38.8 | 28.4 | 17 | 39 | 30.8 | 9 | 72.2 |
| ø16 | 3/8 | KQ2V16-03□P | 21 | 23.8 | 32.3 | 34.2 | 23 | 43.3 | 35.7 | 20.6 | 55 | 46 | 11 | 99.9 |
| | 1/2 | KQ2V16-04□P | 21 | 23.8 | 32.3 | 34.2 | 26.3 | 46.6 | 36.2 | 20.6 | 78 | 46 | 13 | 113 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



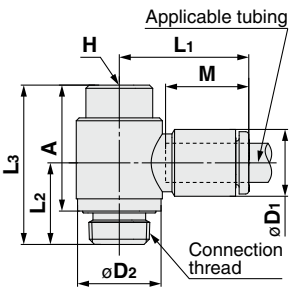

### Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VS04-01□P | 6 | 8.2 | 13.4 | 19.3 | 12.7 | 24.8 | 19.6 | 13.3 | 2.9 | 2.9 | 3 | 12.6 |
| ø6 | 1/8 | KQ2VS06-01□P | 6 | 10.4 | 13.4 | 20.5 | 12.7 | 24.8 | 19.6 | 13.3 | 7.5 | 5.9 | 4.5 | 12.9 |
| | 1/4 | KQ2VS06-02□P | 6 | 10.4 | 18 | 19.9 | 16.1 | 24.7 | 17.1 | 13.3 | 7.5 | 5.9 | 4.5 | 19.2 |
| ø8 | 1/8 | KQ2VS08-01□P | 8 | 13.2 | 17.6 | 23.5 | 14.1 | 25 | 19.8 | 14.2 | 16 | 11.2 | 6 | 19.3 |
| | 1/4 | KQ2VS08-02□P | 8 | 13.2 | 18 | 23.5 | 16.7 | 27.7 | 20.1 | 14.2 | 16 | 11.2 | 6 | 23.8 |
| | 3/8 | KQ2VS08-03□P | 8 | 13.2 | 22 | 23.1 | 17.4 | 29.3 | 21.7 | 14.2 | 16 | 11.2 | 6 | 34.4 |
| ø10 | 1/4 | KQ2VS10-02□P | 8 | 15.9 | 20.6 | 25.9 | 18.1 | 29.2 | 21.6 | 15.6 | 27 | 20.3 | 7.5 | 29.2 |
| | 3/8 | KQ2VS10-03□P | 8 | 15.9 | 22 | 25.9 | 18.2 | 29.3 | 21.7 | 15.6 | 27 | 20.3 | 7.5 | 35.6 |
| ø12 | 3/8 | KQ2VS12-03□P | 10 | 18.5 | 25.2 | 28.5 | 19.3 | 33 | 25.4 | 17 | 39 | 30.8 | 9 | 48.6 |
| | 1/2 | KQ2VS12-04□P | 10 | 18.5 | 26 | 28.5 | 22.6 | 36.3 | 25.9 | 17 | 39 | 30.8 | 9 | 64.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



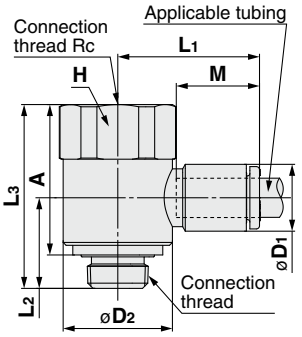
## Dimensions

### Universal Female Elbow: KQ2VF (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R, Rc | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VF04-01□P | 17 | 8.2 | 17 | 21.2 | 14.1 | 28.6 | 23.4 | 13.3 | 2.9 | 2.9 | 3 | 28.5 |
| ø6 | 1/8 | KQ2VF06-01□P | 17 | 10.4 | 17 | 22.4 | 14.1 | 28.6 | 23.4 | 13.3 | 7.5 | 5.9 | 4.5 | 28.9 |
| | 1/4 | KQ2VF06-02□P | 22 | 10.4 | 21.7 | 23.2 | 17.6 | 36.4 | 28.8 | 13.3 | 7.5 | 5.9 | 4.5 | 60.3 |
| ø8 | 1/8 | KQ2VF08-01□P | 17 | 13.2 | 17.6 | 23.5 | 14.8 | 29.3 | 24.1 | 14.2 | 16 | 11.2 | 6 | 27.2 |
| | 1/4 | KQ2VF08-02□P | 22 | 13.2 | 21.6 | 25.1 | 17.8 | 36.4 | 28.8 | 14.2 | 16 | 11.2 | 6 | 61.2 |
| | 3/8 | KQ2VF08-03□P | 27 | 13.2 | 27.7 | 26.2 | 22.2 | 42.2 | 34.6 | 14.2 | 16 | 11.2 | 6 | 90.2 |
| ø10 | 1/4 | KQ2VF10-02□P | 22 | 15.9 | 22.6 | 26.9 | 18.8 | 38.7 | 31.1 | 15.6 | 27 | 20.3 | 7.5 | 61 |
| | 3/8 | KQ2VF10-03□P | 27 | 15.9 | 26.6 | 27.6 | 21.4 | 42.2 | 34.6 | 15.6 | 27 | 20.3 | 7.5 | 90 |
| ø12 | 3/8 | KQ2VF12-03□P | 27 | 18.5 | 26.6 | 29.9 | 20.9 | 42.2 | 34.6 | 17 | 39 | 30.8 | 9 | 91.6 |
| | 1/2 | KQ2VF12-04□P | 30 | 18.5 | 31.6 | 32.1 | 22.3 | 47.2 | 36.8 | 17 | 39 | 30.8 | 9 | 144.1 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 ø$D_1$ is maximum diameter.

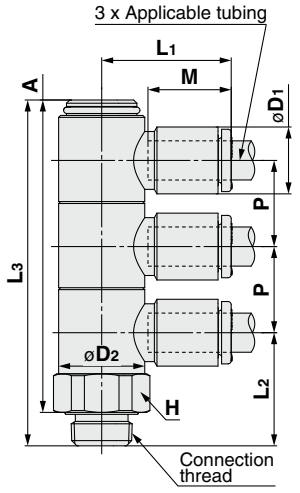



### Triple Universal Male Elbow: KQ2VT (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VT04-01□P | 14 | 8.2 | 13.4 | 19.3 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 27.5 |
| | 1/4 | KQ2VT04-02□P | 17 | 8.2 | 13.4 | 19.3 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 36.8 |
| | 3/8 | KQ2VT04-03□P | 21 | 8.2 | 13.4 | 19.3 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 54.4 |
| ø6 | 1/8 | KQ2VT06-01□P | 14 | 10.4 | 13.4 | 20.5 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 28.5 |
| | 1/4 | KQ2VT06-02□P | 17 | 10.4 | 13.4 | 20.5 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 37.8 |
| | 3/8 | KQ2VT06-03□P | 21 | 10.4 | 13.4 | 20.5 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 55.4 |
| ø8 | 1/8 | KQ2VT08-01□P | 19 | 13.2 | 17.6 | 23.7 | 21 | 63.8 | 58.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 67 |
| | 1/4 | KQ2VT08-02□P | 19 | 13.2 | 17.6 | 23.7 | 23.4 | 66.2 | 58.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 60.8 |
| | 3/8 | KQ2VT08-03□P | 21 | 13.2 | 17.6 | 23.7 | 24.4 | 67.2 | 59.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 72.7 |
| | 1/2 | KQ2VT08-04□P | 27 | 13.2 | 17.6 | 23.7 | 29.2 | 72 | 61.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 112.8 |
| ø10 | 1/4 | KQ2VT10-02□P | 21 | 15.9 | 20.6 | 25.7 | 25.8 | 77 | 69.4 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 89.7 |
| | 3/8 | KQ2VT10-03□P | 21 | 15.9 | 20.6 | 25.7 | 25.8 | 77 | 69.4 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 86.5 |
| | 1/2 | KQ2VT10-04□P | 27 | 15.9 | 20.6 | 25.7 | 30.6 | 81.8 | 71.4 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 125.5 |
| ø12 | 1/4 | KQ2VT12-02□P | 26 | 18.5 | 25.2 | 28.9 | 29.1 | 86.7 | 79.1 | 17 | 21.6 | 39 | 30.8 | 9 | 158.6 |
| | 3/8 | KQ2VT12-03□P | 26 | 18.5 | 25.2 | 28.9 | 29.1 | 86.7 | 79.1 | 17 | 21.6 | 39 | 30.8 | 9 | 145.4 |
| | 1/2 | KQ2VT12-04□P | 27 | 18.5 | 25.2 | 28.9 | 31.9 | 89.5 | 79.1 | 17 | 21.6 | 39 | 30.8 | 9 | 155.4 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 ø$D_1$ is maximum diameter.

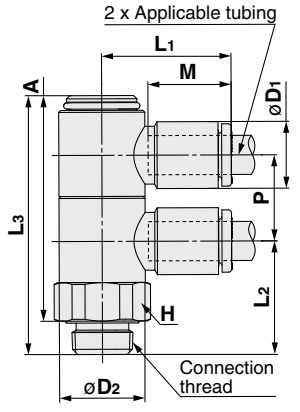



### Double Universal Male Elbow: KQ2VD (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2VD04-01□P | 14 | 8.2 | 13.4 | 19.3 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 22 |
| | 1/4 | KQ2VD04-02□P | 17 | 8.2 | 13.4 | 19.3 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 31.2 |
| | 3/8 | KQ2VD04-03□P | 21 | 8.2 | 13.4 | 19.3 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 48.7 |
| ø6 | 1/8 | KQ2VD06-01□P | 14 | 10.4 | 13.4 | 20.5 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 22.6 |
| | 1/4 | KQ2VD06-02□P | 17 | 10.4 | 13.4 | 20.5 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 31.8 |
| | 3/8 | KQ2VD06-03□P | 21 | 10.4 | 13.4 | 20.5 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 7.5 | 5.9 | 4.5 | 49.3 |
| ø8 | 1/8 | KQ2VD08-01□P | 19 | 13.2 | 17.6 | 23.7 | 21 | 47.8 | 42.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 52.4 |
| | 1/4 | KQ2VD08-02□P | 19 | 13.2 | 17.6 | 23.7 | 23.4 | 50.2 | 42.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 48.6 |
| | 3/8 | KQ2VD08-03□P | 21 | 13.2 | 17.6 | 23.7 | 24.4 | 51.2 | 43.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 60.4 |
| | 1/2 | KQ2VD08-04□P | 27 | 13.2 | 17.6 | 23.7 | 29.2 | 56 | 45.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 100.4 |
| ø10 | 1/4 | KQ2VD10-02□P | 21 | 15.9 | 20.6 | 25.7 | 25.8 | 57.7 | 50.1 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 70.6 |
| | 3/8 | KQ2VD10-03□P | 21 | 15.9 | 20.6 | 25.7 | 25.8 | 57.7 | 50.1 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 69.5 |
| | 1/2 | KQ2VD10-04□P | 27 | 15.9 | 20.6 | 25.7 | 30.6 | 62.5 | 52.1 | 15.6 | 19.2 | 27 | 20.3 | 7.5 | 108.2 |
| ø12 | 1/4 | KQ2VD12-02□P | 26 | 18.5 | 25.2 | 28.9 | 29.1 | 65 | 57.4 | 17 | 21.6 | 39 | 30.8 | 9 | 125.8 |
| | 3/8 | KQ2VD12-03□P | 26 | 18.5 | 25.2 | 28.9 | 29.1 | 65 | 57.4 | 17 | 21.6 | 39 | 30.8 | 9 | 117.4 |
| | 1/2 | KQ2VD12-04□P | 27 | 18.5 | 25.2 | 28.9 | 31.9 | 67.8 | 57.4 | 17 | 21.6 | 39 | 30.8 | 9 | 128.8 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 ø$D_1$ is maximum diameter.



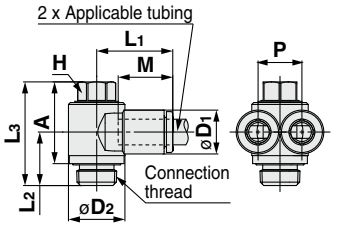
## Dimensions

### Branch Universal Male Elbow: KQ2Z (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Z04-01□P | 8 | 8.2 | 13.4 | 18.5 | 12.7 | 24.6 | 19.4 | 13.3 | 8.2 | 4.7 | 4.7 | 3 | 13.4 |
| ø6 | 1/8 | KQ2Z06-01□P | 8 | 10.4 | 13.4 | 18.4 | 12.7 | 24.6 | 19.4 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 14 |
| | 1/4 | KQ2Z06-02□P | 14 | 10.4 | 20.6 | 21.5 | 17.3 | 33.1 | 25.5 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 35.4 |
| | 3/8 | KQ2Z06-03□P | 14 | 10.4 | 22 | 21.5 | 17.4 | 33.2 | 25.6 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 42.3 |
| ø8 | 1/8 | KQ2Z08-01□P | 12 | 13.2 | 17.6 | 21.2 | 14.1 | 26.6 | 21.4 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 24.5 |
| | 1/4 | KQ2Z08-02□P | 12 | 13.2 | 18 | 21.2 | 16.7 | 29.2 | 21.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 28.9 |
| | 3/8 | KQ2Z08-03□P | 14 | 13.2 | 22 | 22.3 | 17.4 | 33.2 | 25.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 44 |
| ø10 | 1/4 | KQ2Z10-02□P | 14 | 15.9 | 21.6 | 23.6 | 18.1 | 33.1 | 25.5 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 40 |
| | 3/8 | KQ2Z10-03□P | 14 | 15.9 | 22 | 23.6 | 18.2 | 33.2 | 25.6 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 46.9 |
| ø12 | 3/8 | KQ2Z12-03□P | 17 | 18.5 | 24.1 | 26.9 | 19.1 | 35.5 | 27.9 | 17 | 18.5 | 44.6 | 35.3 | 9 | 60.5 |
| | 1/2 | KQ2Z12-04□P | 17 | 18.5 | 26 | 26.9 | 22.4 | 38.8 | 28.4 | 17 | 18.5 | 44.6 | 35.3 | 9 | 76 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 øD1 is maximum diameter.

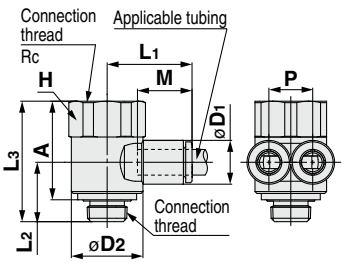



### Branch Universal Female Elbow: KQ2ZF (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R, Rc | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZF04-01□P | 17 | 8.2 | 17 | 20.5 | 14.1 | 28.6 | 23.4 | 13.3 | 8.2 | 4.7 | 4.7 | 3 | 29.3 |
| ø6 | 1/8 | KQ2ZF06-01□P | 17 | 10.4 | 17 | 20.5 | 14.1 | 28.6 | 23.4 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 29.9 |
| | 1/4 | KQ2ZF06-02□P | 22 | 10.4 | 21.7 | 22.5 | 17.6 | 36.4 | 28.8 | 13.3 | 10.4 | 10.8 | 8.6 | 4.5 | 61.3 |
| ø8 | 1/8 | KQ2ZF08-01□P | 17 | 13.2 | 17.6 | 21.2 | 14.8 | 29.3 | 24.1 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 28.9 |
| | 1/4 | KQ2ZF08-02□P | 22 | 13.2 | 21.4 | 23.3 | 17.8 | 36.4 | 28.8 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 62.8 |
| ø10 | 1/4 | KQ2ZF10-02□P | 22 | 15.9 | 22.6 | 24.6 | 18.8 | 38.7 | 31.1 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 63.8 |
| | 3/8 | KQ2ZF10-03□P | 27 | 15.9 | 26.6 | 26.9 | 21.4 | 42.2 | 34.6 | 15.6 | 15.9 | 31.8 | 22.6 | 7.5 | 93 |
| ø12 | 3/8 | KQ2ZF12-03□P | 27 | 18.5 | 26.6 | 28.1 | 20.9 | 42.2 | 34.6 | 17 | 18.5 | 44.6 | 35.3 | 9 | 96 |
| | 1/2 | KQ2ZF12-04□P | 30 | 18.5 | 31.6 | 32 | 22.3 | 47.2 | 36.8 | 17 | 18.5 | 44.6 | 35.3 | 9 | 148.8 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 øD1 is maximum diameter.

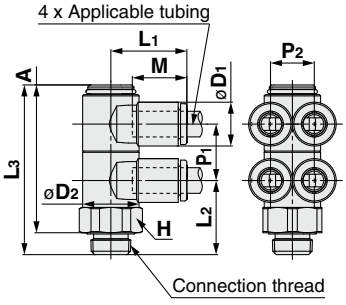



### Double Branch Universal Male Elbow: KQ2ZD (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | $P_1$ | $P_2$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZD04-01□P | 14 | 8.2 | 13.4 | 18.5 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 23.6 |
| | 1/4 | KQ2ZD04-02□P | 17 | 8.2 | 13.4 | 18.5 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 32.8 |
| | 3/8 | KQ2ZD04-03□P | 21 | 8.2 | 13.4 | 18.5 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 50.3 |
| ø6 | 1/8 | KQ2ZD06-01□P | 14 | 10.4 | 13.4 | 18.4 | 17.6 | 40.3 | 35.1 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 24.8 |
| | 1/4 | KQ2ZD06-02□P | 17 | 10.4 | 13.4 | 18.4 | 21 | 43.7 | 36.1 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 34 |
| | 3/8 | KQ2ZD06-03□P | 21 | 10.4 | 13.4 | 18.4 | 23 | 45.7 | 38.1 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 51.6 |
| ø8 | 1/8 | KQ2ZD08-01□P | 19 | 13.2 | 17.6 | 21.2 | 21 | 47.8 | 42.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 56.1 |
| | 1/4 | KQ2ZD08-02□P | 19 | 13.2 | 17.6 | 21.2 | 23.4 | 50.2 | 42.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 52.2 |
| | 3/8 | KQ2ZD08-03□P | 21 | 13.2 | 17.6 | 21.2 | 24.4 | 51.2 | 43.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 64.1 |
| | 1/2 | KQ2ZD08-04□P | 27 | 13.2 | 17.6 | 21.2 | 29.2 | 56 | 45.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 104.1 |
| ø10 | 1/4 | KQ2ZD10-02□P | 21 | 15.9 | 20.6 | 23.6 | 25.8 | 57.7 | 50.1 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 76.5 |
| | 3/8 | KQ2ZD10-03□P | 21 | 15.9 | 20.6 | 23.6 | 25.8 | 57.7 | 50.1 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 75.3 |
| | 1/2 | KQ2ZD10-04□P | 27 | 15.9 | 20.6 | 23.6 | 30.6 | 62.5 | 52.1 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 114 |
| ø12 | 1/4 | KQ2ZD12-02□P | 26 | 18.5 | 25.2 | 26.8 | 29.1 | 65 | 57.4 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 134.4 |
| | 3/8 | KQ2ZD12-03□P | 26 | 18.5 | 25.2 | 26.8 | 29.1 | 65 | 57.4 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 126 |
| | 1/2 | KQ2ZD12-04□P | 27 | 18.5 | 25.2 | 26.8 | 31.9 | 67.8 | 57.4 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 137.4 |

□: A (Brass), N (Brass + Electroless nickel plating) *1 øD1 is maximum diameter.



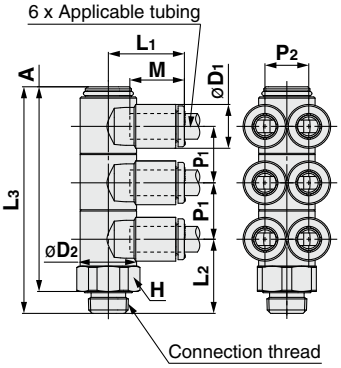
## Dimensions

### Triple Branch Universal Male Elbow: KQ2ZT (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | P1 | P2 | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2ZT04-01□P | 14 | 8.2 | 13.4 | 18.5 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 29.9 |
| | 1/4 | KQ2ZT04-02□P | 17 | 8.2 | 13.4 | 18.5 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 39.2 |
| | 3/8 | KQ2ZT04-03□P | 21 | 8.2 | 13.4 | 18.5 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 8.2 | 4.7 | 4.7 | 3 | 56.8 |
| ø6 | 1/8 | KQ2ZT06-01□P | 14 | 10.4 | 13.4 | 18.4 | 17.6 | 53.8 | 48.6 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 31.8 |
| | 1/4 | KQ2ZT06-02□P | 17 | 10.4 | 13.4 | 18.4 | 21 | 57.2 | 49.6 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 41.1 |
| | 3/8 | KQ2ZT06-03□P | 21 | 10.4 | 13.4 | 18.4 | 23 | 59.2 | 51.6 | 13.3 | 13.4 | 10.4 | 10.8 | 8.6 | 4.5 | 58.7 |
| ø8 | 1/8 | KQ2ZT08-01□P | 19 | 13.2 | 17.6 | 21.2 | 21 | 63.8 | 58.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 72.5 |
| | 1/4 | KQ2ZT08-02□P | 19 | 13.2 | 17.6 | 21.2 | 23.4 | 66.2 | 58.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 66.3 |
| | 3/8 | KQ2ZT08-03□P | 21 | 13.2 | 17.6 | 21.2 | 24.4 | 67.2 | 59.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 78.2 |
| | 1/2 | KQ2ZT08-04□P | 27 | 13.2 | 17.6 | 21.2 | 29.2 | 72 | 61.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 118.3 |
| ø10 | 1/4 | KQ2ZT10-02□P | 21 | 15.9 | 20.6 | 23.6 | 25.8 | 77 | 69.4 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 98.5 |
| | 3/8 | KQ2ZT10-03□P | 21 | 15.9 | 20.6 | 23.6 | 25.8 | 77 | 69.4 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 95.3 |
| | 1/2 | KQ2ZT10-04□P | 27 | 15.9 | 20.6 | 23.6 | 30.6 | 81.8 | 71.4 | 15.6 | 19.2 | 15.9 | 31.8 | 21.6 | 7.5 | 134.3 |
| ø12 | 1/4 | KQ2ZT12-02□P | 26 | 18.5 | 25.2 | 26.8 | 29.1 | 86.7 | 79.1 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 171.5 |
| | 3/8 | KQ2ZT12-03□P | 26 | 18.5 | 25.2 | 26.8 | 29.1 | 86.7 | 79.1 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 158.3 |
| | 1/2 | KQ2ZT12-04□P | 27 | 18.5 | 25.2 | 26.8 | 31.9 | 89.5 | 79.1 | 17 | 21.6 | 18.5 | 44.6 | 35.3 | 9 | 168.3 |

□: A (Brass), N (Brass + Electroless nickel plating)  ∗1 øD1 is maximum diameter.

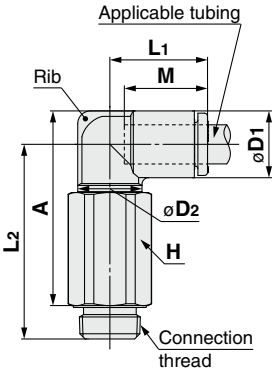



### Extended Male Elbow: KQ2W (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2W23-01□P | 12 | 7.1 | 10 | 14.5 | 29.6 | 28 | 13.3 | 2.8 | 2.4 | 2.5 | 15.3 | — |
| | 1/4 | KQ2W23-02□P | 17 | 7.1 | 10 | 14.5 | 31 | 27 | 13.3 | 2.8 | 2.4 | 2.5 | 34.6 | — |
| ø4 | 1/8 | KQ2W04-01□P | 12 | 8.2 | 10 | 14.8 | 29.2 | 28.1 | 13.3 | 4 | 4 | 3 | 15.5 | ● |
| | 1/4 | KQ2W04-02□P | 17 | 8.2 | 10 | 14.8 | 31.5 | 28 | 13.3 | 4 | 4 | 3 | 34.9 | ● |
| ø6 | 1/8 | KQ2W06-01□P | 12 | 10.4 | 10 | 15.5 | 30.3 | 30.3 | 13.3 | 10.9 | 8.6 | 4.5 | 15.9 | — |
| | 1/4 | KQ2W06-02□P | 17 | 10.4 | 10 | 15.5 | 32.6 | 30.2 | 13.3 | 10.9 | 8.6 | 4.5 | 35.3 | — |
| | 3/8 | KQ2W06-03□P | 21 | 10.4 | 10 | 15.5 | 34.6 | 32.2 | 13.3 | 10.9 | 8.6 | 4.5 | 62.8 | — |
| ø8 | 1/8 | KQ2W08-01□P | 12 | 13.2 | 10 | 16.4 | 31.7 | 33.1 | 14.2 | 10.9 | 10.9 | 4.5 | 16.7 | ● |
| | 1/4 | KQ2W08-02□P | 17 | 13.2 | 12 | 17.2 | 36.1 | 35.1 | 14.2 | 20.5 | 14.2 | 6 | 35.4 | ● |
| | 3/8 | KQ2W08-03□P | 21 | 13.2 | 12 | 17.2 | 38.1 | 37.1 | 14.2 | 20.5 | 14.2 | 6 | 64.7 | ● |
| ø10 | 1/4 | KQ2W10-02□P | 17 | 15.9 | 17 | 19.3 | 50.1 | 50.5 | 15.6 | 33.5 | 23.8 | 7.5 | 54.3 | ● |
| | 3/8 | KQ2W10-03□P | 21 | 15.9 | 17 | 19.3 | 44.7 | 45.1 | 15.6 | 33.5 | 23.8 | 7.5 | 57.8 | ● |
| | 1/2 | KQ2W10-04□P | 27 | 15.9 | 17 | 19.3 | 49.5 | 47.1 | 15.6 | 33.5 | 23.8 | 7.5 | 122.8 | ● |
| ø12 | 1/4 | KQ2W12-02□P | 17 | 18.5 | 17 | 21.5 | 51.4 | 53.1 | 17 | 47.7 | 37.7 | 9 | 56 | ● |
| | 3/8 | KQ2W12-03□P | 21 | 18.5 | 17 | 21.5 | 46 | 47.7 | 17 | 47.7 | 37.7 | 9 | 59.7 | ● |
| | 1/2 | KQ2W12-04□P | 27 | 18.5 | 17 | 21.5 | 50.8 | 49.7 | 17 | 47.7 | 37.7 | 9 | 124.6 | ● |
| ø16 | 1/4 | KQ2W16-02□P | 17 | 23.8 | 17 | 25.1 | 54.1 | 58.4 | 20.6 | 47.7 | 47.7 | 9 | 60.4 | ● |
| | 3/8 | KQ2W16-03□P | 22 | 23.8 | 21 | 27.1 | 57 | 61.3 | 20.6 | 71 | 58.9 | 11 | 89.1 | — |
| | 1/2 | KQ2W16-04□P | 27 | 23.8 | 21 | 27.1 | 59 | 60.5 | 20.6 | 100 | 58.9 | 13 | 155.9 | — |

□: A (Brass), N (Brass + Electroless nickel plating)  ∗1 øD1 is maximum diameter.



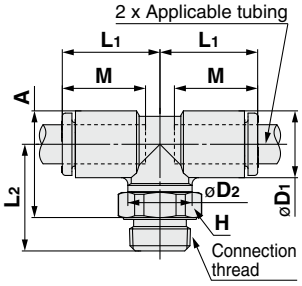
## Dimensions

### Male Branch Tee: KQ2T (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2T23-01□P | 12 | 7.1 | 10 | 14.5 | 15.9 | 14.3 | 13.3 | 3.4 | 2.9 | 2.5 | 5.7 |
| | 1/4 | KQ2T23-02□P | 17 | 7.1 | 10 | 14.5 | 19.3 | 15.3 | 13.3 | 3.4 | 2.9 | 2.5 | 14.9 |
| ø4 | 1/8 | KQ2T04-01□P | 12 | 8.2 | 10 | 14.8 | 15.5 | 14.4 | 13.3 | 6 | 4.1 | 3 | 5.9 |
| | 1/4 | KQ2T04-02□P | 17 | 8.2 | 10 | 14.8 | 19.9 | 16.4 | 13.3 | 6 | 4.1 | 3 | 15.2 |
| ø6 | 1/8 | KQ2T06-01□P | 12 | 10.4 | 10 | 15.5 | 16.6 | 16.6 | 13.3 | 13.9 | 11 | 4.5 | 6.6 |
| | 1/4 | KQ2T06-02□P | 17 | 10.4 | 10 | 15.5 | 21 | 18.6 | 13.3 | 13.9 | 11 | 4.5 | 15.9 |
| | 3/8 | KQ2T06-03□P | 21 | 10.4 | 10 | 15.5 | 23 | 20.6 | 13.3 | 13.9 | 11 | 4.5 | 31.1 |
| ø8 | 1/8 | KQ2T08-01□P | 12 | 13.2 | 10 | 16.4 | 18 | 19.4 | 14.2 | 14 | 14 | 4.5 | 8.3 |
| | 1/4 | KQ2T08-02□P | 17 | 13.2 | 12 | 17.2 | 22.4 | 21.4 | 14.2 | 26.3 | 18.2 | 6 | 15.5 |
| | 3/8 | KQ2T08-03□P | 21 | 13.2 | 12 | 17.2 | 24.4 | 23.4 | 14.2 | 26.3 | 18.2 | 6 | 30.4 |
| ø10 | 1/8 | KQ2T10-01□P | 12 | 15.9 | 12 | 18.6 | 22.1 | 24.9 | 15.6 | 21.6 | 14.9 | 6 | 12.9 |
| | 1/4 | KQ2T10-02□P | 17 | 15.9 | 17 | 19.3 | 25.6 | 26 | 15.6 | 35.2 | 25 | 7.5 | 20.5 |
| | 3/8 | KQ2T10-03□P | 21 | 15.9 | 17 | 19.3 | 25.7 | 26.1 | 15.6 | 35.2 | 25 | 7.5 | 20.4 |
| | 1/2 | KQ2T10-04□P | 27 | 15.9 | 17 | 19.3 | 30.5 | 28.1 | 15.6 | 35.2 | 25 | 7.5 | 47.7 |
| ø12 | 1/4 | KQ2T12-02□P | 17 | 18.5 | 17 | 21.5 | 26.9 | 28.6 | 17 | 57.2 | 45.2 | 9 | 23.5 |
| | 3/8 | KQ2T12-03□P | 21 | 18.5 | 17 | 21.5 | 27 | 28.7 | 17 | 57.2 | 45.2 | 9 | 23.6 |
| | 1/2 | KQ2T12-04□P | 27 | 18.5 | 17 | 21.5 | 31.8 | 30.7 | 17 | 57.2 | 45.2 | 9 | 50.8 |
| ø16 | 1/4 | KQ2T16-02□P | 17 | 23.8 | 17 | 25.1 | 29.6 | 33.9 | 20.6 | 57.2 | 57.2 | 9 | 31.7 |
| | 3/8 | KQ2T16-03□P | 21 | 23.8 | 21 | 27.1 | 32.7 | 37 | 20.6 | 71 | 58.9 | 11 | 40.8 |
| | 1/2 | KQ2T16-04□P | 27 | 23.8 | 21 | 27.1 | 34.7 | 36.2 | 20.6 | 100 | 58.9 | 13 | 66.8 |

□: A (Brass), N (Brass + Electroless nickel plating)  *1 ø$D_1$ is maximum diameter.

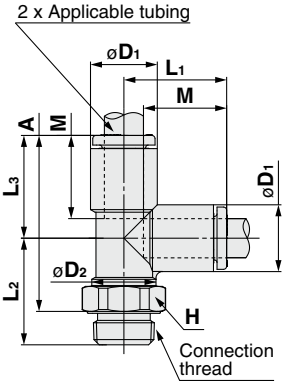



### Male Run Tee: KQ2Y (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2Y23-01□P | 12 | 7.1 | 10 | 14.9 | 15.9 | 14.9 | 25.7 | 13.3 | 3.4 | 2.9 | 2.5 | 5.7 |
| | 1/4 | KQ2Y23-02□P | 17 | 7.1 | 10 | 14.9 | 19.3 | 14.9 | 26.7 | 13.3 | 3.4 | 2.9 | 2.5 | 14.9 |
| ø4 | 1/8 | KQ2Y04-01□P | 12 | 8.2 | 10 | 15.3 | 15.5 | 15.3 | 25.6 | 13.3 | 6.4 | 4.4 | 3 | 6 |
| | 1/4 | KQ2Y04-02□P | 17 | 8.2 | 10 | 15.3 | 19.9 | 15.3 | 27.6 | 13.3 | 6.4 | 4.4 | 3 | 15.2 |
| ø6 | 1/8 | KQ2Y06-01□P | 12 | 10.4 | 10 | 16.3 | 16.6 | 16.3 | 27.7 | 13.3 | 13.4 | 10.6 | 4.5 | 6.7 |
| | 1/4 | KQ2Y06-02□P | 17 | 10.4 | 10 | 16.3 | 21 | 16.3 | 29.7 | 13.3 | 13.4 | 10.6 | 4.5 | 16 |
| | 3/8 | KQ2Y06-03□P | 21 | 10.4 | 10 | 16.3 | 23 | 16.3 | 31.7 | 13.3 | 13.4 | 10.6 | 4.5 | 31.2 |
| ø8 | 1/8 | KQ2Y08-01□P | 12 | 13.2 | 10 | 18.2 | 18 | 18.2 | 31 | 14.2 | 13.4 | 13.4 | 4.5 | 8.4 |
| | 1/4 | KQ2Y08-02□P | 17 | 13.2 | 12 | 18.2 | 22.4 | 18.2 | 33 | 14.2 | 25.6 | 17.7 | 6 | 15.6 |
| | 3/8 | KQ2Y08-03□P | 21 | 13.2 | 12 | 18.2 | 24.4 | 18.2 | 35 | 14.2 | 25.6 | 17.7 | 6 | 30.5 |
| ø10 | 1/8 | KQ2Y10-01□P | 12 | 15.9 | 12 | 20.6 | 22.1 | 20.6 | 37.6 | 15.6 | 40 | 28.4 | 6 | 13 |
| | 1/4 | KQ2Y10-02□P | 17 | 15.9 | 17 | 20.6 | 25.6 | 20.6 | 38.7 | 15.6 | 40 | 28.4 | 7.5 | 20.7 |
| | 3/8 | KQ2Y10-03□P | 21 | 15.9 | 17 | 20.6 | 25.7 | 20.6 | 38.8 | 15.6 | 40 | 28.4 | 7.5 | 20.6 |
| | 1/2 | KQ2Y10-04□P | 27 | 15.9 | 17 | 20.6 | 30.5 | 20.6 | 40.8 | 15.6 | 40 | 28.4 | 7.5 | 47.9 |
| ø12 | 1/4 | KQ2Y12-02□P | 17 | 18.5 | 17 | 23 | 26.9 | 23 | 42.4 | 17 | 57.4 | 45.4 | 9 | 23.8 |
| | 3/8 | KQ2Y12-03□P | 21 | 18.5 | 17 | 23 | 27 | 23 | 42.5 | 17 | 57.4 | 45.4 | 9 | 23.8 |
| | 1/2 | KQ2Y12-04□P | 27 | 18.5 | 17 | 23 | 31.8 | 23 | 44.5 | 17 | 57.4 | 45.4 | 9 | 51.1 |
| ø16 | 1/4 | KQ2Y16-02□P | 17 | 23.8 | 17 | 28.6 | 29.6 | 28.6 | 50.6 | 20.6 | 57.4 | 45.4 | 9 | 32.2 |
| | 3/8 | KQ2Y16-03□P | 21 | 23.8 | 21 | 28.6 | 32.7 | 28.6 | 53.7 | 20.6 | 81 | 60 | 11 | 41.3 |
| | 1/2 | KQ2Y16-04□P | 27 | 23.8 | 21 | 28.6 | 34.7 | 28.6 | 52.9 | 20.6 | 113 | 60 | 13 | 67.3 |

□: A (Brass), N (Brass + Electroless nickel plating)  *1 ø$D_1$ is maximum diameter.



## Dimensions

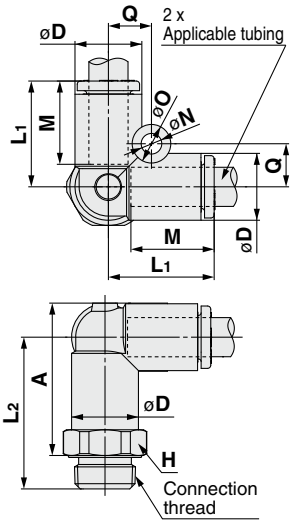
### Male Delta Union: KQ2D (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | *1 øD | L1 | L2 | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2D04-01□P | 12 | 8.2 | 15.8 | 22.6 | 21.5 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 9.1 |
| | 1/4 | KQ2D04-02□P | 17 | 8.2 | 15.8 | 26 | 22.5 | 13.3 | 5.7 | 6 | 3.2 | 6 | 6 | 3.6 | 19 |
| ø6 | 1/8 | KQ2D06-01□P | 12 | 10.4 | 16.8 | 23.6 | 23.6 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 9.7 |
| | 1/4 | KQ2D06-02□P | 17 | 10.4 | 16.8 | 27 | 24.6 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 19.3 |
| | 3/8 | KQ2D06-03□P | 21 | 10.4 | 16.8 | 26.5 | 24.1 | 13.3 | 6.7 | 6 | 3.2 | 13.9 | 11 | 5.4 | 27.6 |
| ø8 | 1/8 | KQ2D08-01□P | 14 | 13.2 | 18.8 | 25.6 | 27 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 6 | 15.2 |
| | 1/4 | KQ2D08-02□P | 17 | 13.2 | 18.8 | 29 | 28 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 7.3 | 20.9 |
| | 3/8 | KQ2D08-03□P | 21 | 13.2 | 18.8 | 28.5 | 27.5 | 14.2 | 8.4 | 8 | 4.2 | 26.3 | 18.2 | 7.3 | 29.3 |
| ø10 | 1/4 | KQ2D10-02□P | 17 | 15.9 | 21.2 | 31.4 | 31.7 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9 | 23.2 |
| | 3/8 | KQ2D10-03□P | 21 | 15.9 | 21.2 | 30.9 | 31.2 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9.4 | 30.7 |
| | 1/2 | KQ2D10-04□P | 27 | 15.9 | 21.2 | 33.2 | 30.7 | 15.6 | 9.6 | 8 | 4.2 | 40.8 | 29 | 9.4 | 48.8 |
| ø12 | 1/4 | KQ2D12-02□P | 21 | 18.5 | 23.6 | 33.8 | 35.4 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 9 | 36.6 |
| | 3/8 | KQ2D12-03□P | 21 | 18.5 | 23.6 | 33.3 | 34.9 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 11 | 34.3 |
| | 1/2 | KQ2D12-04□P | 27 | 18.5 | 23.6 | 35.6 | 34.4 | 17 | 10.7 | 8 | 4.2 | 57.2 | 45.2 | 11.6 | 49.8 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



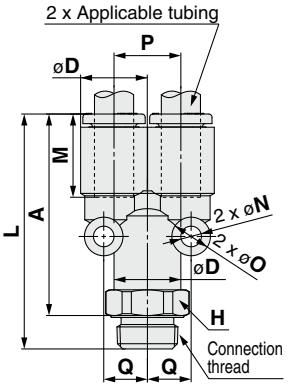

### Branch "Y": KQ2U (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | *1 øD | L | A | M | P | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3.2 | 1/8 | KQ2U23-01□P | 12 | 7.1 | 35.7 | 30.5 | 13.3 | 7.1 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 9 |
| | 1/4 | KQ2U23-02□P | 17 | 7.1 | 39.1 | 31.5 | 13.3 | 7.1 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 19 |
| ø4 | 1/8 | KQ2U04-01□P | 12 | 8.2 | 35.8 | 30.6 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 9.3 |
| | 1/4 | KQ2U04-02□P | 17 | 8.2 | 39.2 | 31.6 | 13.3 | 8.2 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 19.2 |
| ø6 | 1/8 | KQ2U06-01□P | 12 | 10.4 | 36.9 | 31.7 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 9.9 |
| | 1/4 | KQ2U06-02□P | 17 | 10.4 | 40.3 | 32.7 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 19.5 |
| | 3/8 | KQ2U06-03□P | 21 | 10.4 | 39.8 | 32.2 | 13.3 | 10.4 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 27.8 |
| ø8 | 1/8 | KQ2U08-01□P | 14 | 13.2 | 40 | 34.8 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 15.8 |
| | 1/4 | KQ2U08-02□P | 17 | 13.2 | 43.4 | 35.8 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 21.4 |
| | 3/8 | KQ2U08-03□P | 21 | 13.2 | 42.9 | 35.3 | 14.2 | 13.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 29.8 |
| ø10 | 1/4 | KQ2U10-02□P | 17 | 15.9 | 47.3 | 39.7 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9 | 23.9 |
| | 3/8 | KQ2U10-03□P | 21 | 15.9 | 46.8 | 39.2 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 31.4 |
| | 1/2 | KQ2U10-04□P | 27 | 15.9 | 49.1 | 38.7 | 15.6 | 15.9 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 49.5 |
| ø12 | 1/4 | KQ2U12-02□P | 21 | 18.5 | 51.3 | 43.7 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 9 | 37.6 |
| | 3/8 | KQ2U12-03□P | 21 | 18.5 | 50.8 | 43.2 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11 | 35.2 |
| | 1/2 | KQ2U12-04□P | 27 | 18.5 | 53.1 | 42.7 | 17 | 18.5 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11.6 | 50.8 |
| ø16 | 1/4 | KQ2U16-02□P | 24 | 23.8 | 60.7 | 53.1 | 20.6 | 23.8 | 14 | 8 | 4.2 | 57.4 | 45.4 | 9 | 68.2 |
| | 3/8 | KQ2U16-03□P | 24 | 23.8 | 60.2 | 52.6 | 20.6 | 23.8 | 14 | 8 | 4.2 | 81 | 60 | 11 | 64.7 |
| | 1/2 | KQ2U16-04□P | 27 | 23.8 | 62.5 | 52.1 | 20.6 | 23.8 | 14 | 8 | 4.2 | 113 | 60 | 13 | 70 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



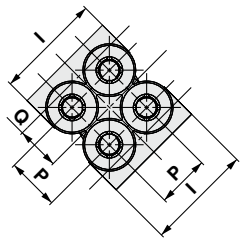
## Dimensions

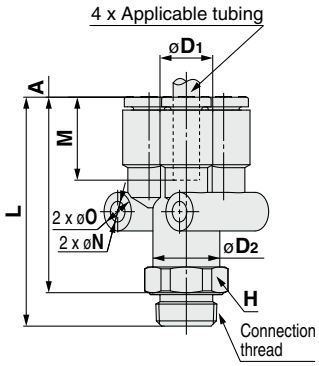
### Double Branch "Y": KQ2UD (Face seal)



| Applicable tubing O.D. [mm] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | L | I | A | M | P | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2UD04-01□P | 12 | 8.2 | 10.4 | 36 | 16.6 | 30.8 | 13.3 | 8.2 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 5.4 | 11.3 |
| | 1/4 | KQ2UD04-02□P | 17 | 8.2 | 10.4 | 39.4 | 16.6 | 31.8 | 13.3 | 8.2 | 6.8 | 6 | 3.2 | 4.2 | 4.2 | 5.4 | 20.8 |
| ø6 | 1/8 | KQ2UD06-01□P | 14 | 10.4 | 13.2 | 38.8 | 21 | 33.6 | 13.3 | 10.4 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 6 | 16.4 |
| | 1/4 | KQ2UD06-02□P | 17 | 10.4 | 13.2 | 42.2 | 21 | 34.6 | 13.3 | 10.4 | 8.2 | 6 | 3.2 | 13.4 | 10.6 | 7.3 | 22.1 |

□: A (Brass), N (Brass + Electroless nickel plating)
*1 ø$D_1$ is maximum diameter.



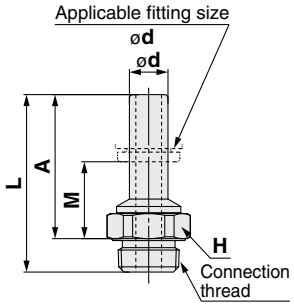




### Adapter: KQ2N (Face seal)



| Applicable fitting size ø**d** | Connection thread R | Model | H (Width across flats) | L | A | M | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2N04-01□P | 12 | 27.6 | 22.4 | 9.1 | 2.5 | 4.4 |
| ø6 | 1/8 | KQ2N06-01□P | 12 | 27.6 | 22.4 | 9.1 | 4 | 4.6 |
| | 1/4 | KQ2N06-02□P | 17 | 31 | 23.4 | 10.1 | 4 | 13.8 |
| ø8 | 1/4 | KQ2N08-02□P | 17 | 32.9 | 25.3 | 11.1 | 6 | 11.8 |
| | 3/8 | KQ2N08-03□P | 21 | 34.9 | 27.3 | 13.1 | 6 | 26.7 |
| ø10 | 3/8 | KQ2N10-03□P | 21 | 36.8 | 29.2 | 13.6 | 7.5 | 14.7 |

□: A (Brass), N (Brass + Electroless nickel plating)



# Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: NPT

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

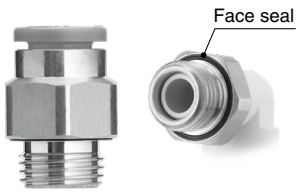
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

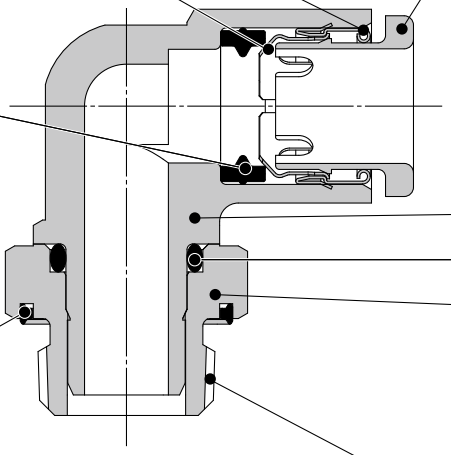
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

NPT

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread) |
| | **Nut section** | JIS B0208 (UNF thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 34 A P**

**One-touch fittings**

**Face seal**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **VS** | Hexagon socket head universal male elbow |
| **VF** | Universal female elbow |
| **VD** | Double universal male elbow |
| **VT** | Triple universal male elbow |
| **Z** | Branch universal male elbow |
| **ZD** | Double branch universal male elbow |
| **ZT** | Triple branch universal male elbow |
| **W** | Extended male elbow |
| **T** | Male branch tee |
| **Y** | Male run tee |
| **U** | Branch "Y" |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

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

| Symbol | | Size |
|---|---|---|
| Thread connection | **33** | NPT1/16 |
| | **34** | NPT1/8 |
| | **35** | NPT1/4 |
| | **36** | NPT3/8 |
| | **37** | NPT1/2 |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

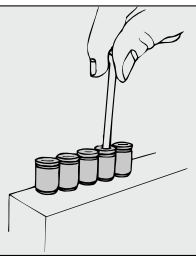
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Round Type Variations

**Hexagon socket head male connector**
**KQ2S** P.188



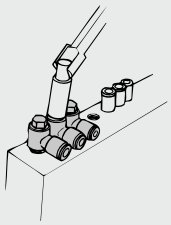
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



**Universal male elbow**
**KQ2V** P.190



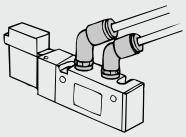
Hexagon head of the body allows tightening with a box wrench in confined spaces.



**45° male elbow**
**KQ2K** P.189



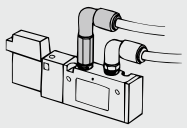
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



**Extended male elbow**
**KQ2W** P.193



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**
**KQ2H** P.188



Use to pipe a female thread in the same direction. Most general model.

**Double universal male elbow**
**KQ2VD** P.191



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

**Triple branch universal male elbow**
**KQ2ZT** P.192



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

**Male elbow**
**KQ2L** P.189



Use to pipe a female thread at right angles. Most general model.

**Triple universal male elbow**
**KQ2VT** P.191



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

**Male branch tee**
**KQ2T** P.193



Use to branch a female thread at both 90° angles.

**Hexagon socket head universal male elbow**
**KQ2VS** P.190



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

**Branch universal male elbow**
**KQ2Z** P.191



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

**Male run tee**
**KQ2Y** P.194



Use to branch a female thread in the same direction and at a 90° angle.

**Universal female elbow**
**KQ2VF** P.190



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

**Double branch universal male elbow**
**KQ2ZD** P.192



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

**Branch "Y"**
**KQ2U** P.194



Use to branch a female thread in the same direction.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory |
|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. |

**Refer to page 135 and after for details.**

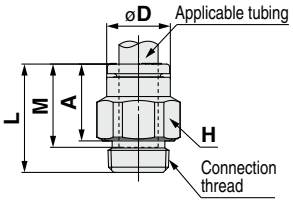
## Dimensions

### Male Connector: KQ2H (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2H01-33□P** | 11.11 | 6.7 | 16.8 | 11.4 | 13.3 | 3 | 2.5 | 2.5 | 14.9 |
| | 1/8 | **KQ2H01-34□P** | 12.7 | 6.7 | 14.3 | 8.9 | 13.3 | 3 | 2.5 | 2.5 | 8.7 |
| | 1/4 | **KQ2H01-35□P** | 17.46 | 6.7 | 15.6 | 7.5 | 13.3 | 3.4 | 2.9 | 2.5 | 16.6 |
| ø5/32 | 1/16 | **KQ2H03-33□P** | 11.11 | 7.7 | 19 | 13.6 | 13.3 | 4.8 | 3.4 | 3 | 13.9 |
| | 1/8 | **KQ2H03-34□P** | 12.7 | 7.7 | 16.4 | 11 | 13.3 | 4.8 | 3.4 | 3 | 7.6 |
| | 1/4 | **KQ2H03-35□P** | 17.46 | 7.7 | 15.6 | 7.5 | 13.3 | 4.8 | 3.4 | 3 | 16 |
| ø3/16 | 1/8 | **KQ2H05-34□P** | 12.7 | 8.3 | 16.9 | 11.5 | 13.3 | 7.8 | 6.5 | 3.6 | 7.8 |
| | 1/4 | **KQ2H05-35□P** | 17.46 | 8.3 | 15.6 | 7.5 | 13.3 | 7.8 | 6.5 | 3.5 | 15.3 |
| ø1/4 | 1/16 | **KQ2H07-33□P** | 11.11 | 10.9 | 19.9 | 14.5 | 13.3 | 13.5 | 11.5 | 3.5 | 6.4 |
| | 1/8 | **KQ2H07-34□P** | 12.7 | 10.9 | 19.5 | 14.1 | 13.3 | 13.5 | 11.5 | 4.6 | 9.4 |
| | 1/4 | **KQ2H07-35□P** | 17.46 | 10.9 | 15.6 | 7.5 | 13.3 | 13.5 | 11.5 | 4.6 | 13.6 |
| | 3/8 | **KQ2H07-36□P** | 22 | 10.9 | 15.1 | 7 | 13.3 | 13.5 | 11.5 | 4.6 | 22.5 |
| ø5/16 | 1/8 | **KQ2H09-34□P** | 17.46 | 13 | 21.3 | 15.9 | 14.2 | 26.1 | 18 | 6 | 17.8 |
| | 1/4 | **KQ2H09-35□P** | 17.46 | 13 | 20.5 | 12.4 | 14.2 | 26.1 | 18 | 6 | 15.7 |
| | 3/8 | **KQ2H09-36□P** | 22 | 13 | 15.2 | 7.1 | 14.2 | 26.1 | 18 | 6 | 20 |
| ø3/8 | 1/8 | **KQ2H11-34□P** | 17.46 | 15.1 | 23.1 | 17.7 | 15.6 | 26 | 26 | 6 | 18.4 |
| | 1/4 | **KQ2H11-35□P** | 17.46 | 15.1 | 24.5 | 16.4 | 15.6 | 35.3 | 29.1 | 7 | 19.8 |
| | 3/8 | **KQ2H11-36□P** | 22 | 15.1 | 21.7 | 13.6 | 15.6 | 35.3 | 29.1 | 7 | 26.3 |
| | 1/2 | **KQ2H11-37□P** | 28.57 | 15.1 | 16.9 | 6.5 | 15.6 | 35.3 | 29.1 | 7 | 36.5 |
| ø1/2 | 1/4 | **KQ2H13-35□P** | 22 | 19 | 27.1 | 19 | 17 | 58.5 | 51.7 | 9 | 29.7 |
| | 3/8 | **KQ2H13-36□P** | 22 | 19 | 26.2 | 18.1 | 17 | 66 | 51.7 | 9.6 | 31.8 |
| | 1/2 | **KQ2H13-37□P** | 28.57 | 19 | 25.8 | 15.4 | 17 | 66 | 51.7 | 9.6 | 52.5 |

□: A (Brass), N (Brass + Electroless nickel plating)



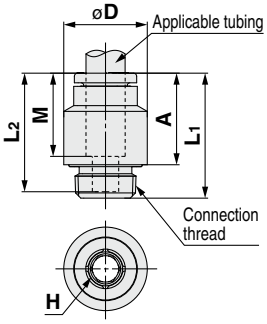

### Hexagon Socket Head Male Connector: KQ2S (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | *1 øD | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø5/32 | 1/16 | **KQ2S03-33□P** | 2.78 | 12 | 19 | 16.3 | 13.6 | 13.3 | 4.1 | 3.6 | 2.8 | 7.5 |
| | 1/8 | **KQ2S03-34□P** | 2.78 | 14 | 17.3 | 16.3 | 11.9 | 13.3 | 4.1 | 3.6 | 2.8 | 9.2 |
| ø3/16 | 1/8 | **KQ2S05-34□P** | 3.57 | 14 | 19.8 | 18.8 | 14.4 | 13.3 | 7.8 | 6.5 | 3.6 | 11.7 |
| ø1/4 | 1/16 | **KQ2S07-33□P** | 2.78 | 12 | 19.9 | 16.3 | 14.5 | 13.3 | 8.4 | 8.4 | 2.8 | 7.1 |
| | 1/8 | **KQ2S07-34□P** | 4.76 | 14 | 19.8 | 18.8 | 14.4 | 13.3 | 13.5 | 11.5 | 4.8 | 10.6 |
| | 1/4 | **KQ2S07-35□P** | 4.76 | 18 | 19.8 | 18.8 | 11.7 | 13.3 | 13.5 | 11.5 | 4.8 | 15.6 |
| | 3/8 | **KQ2S07-36□P** | 4.76 | 22 | 19.8 | 18.8 | 11.7 | 13.3 | 13.5 | 11.5 | 4.8 | 26.4 |
| ø5/16 | 1/8 | **KQ2S09-34□P** | 5.56 | 13 | 20.9 | 19.7 | 15.5 | 14.2 | 17.2 | 16.2 | 5.6 | 8.6 |
| | 1/4 | **KQ2S09-35□P** | 6.35 | 18 | 20.7 | 19.7 | 12.6 | 14.2 | 23.3 | 16.2 | 6.4 | 15.3 |
| | 3/8 | **KQ2S09-36□P** | 6.35 | 22 | 20.7 | 19.7 | 12.6 | 14.2 | 23.3 | 16.2 | 6.4 | 25 |
| ø3/8 | 1/8 | **KQ2S11-34□P** | 5.56 | 15.1 | 23.1 | 21.1 | 17.7 | 15.6 | 22.7 | 22.7 | 5.6 | 12.1 |
| | 1/4 | **KQ2S11-35□P** | 6.35 | 18 | 24.5 | 21.1 | 16.4 | 15.6 | 29.6 | 29.1 | 6.4 | 19.9 |
| | 3/8 | **KQ2S11-36□P** | 6.35 | 22 | 22.1 | 21.1 | 14 | 15.6 | 29.6 | 29.1 | 6.4 | 26.8 |
| | 1/2 | **KQ2S11-37□P** | 6.35 | 26 | 22.1 | 21.1 | 11.7 | 15.6 | 29.6 | 29.1 | 6.4 | 42.8 |
| ø1/2 | 1/4 | **KQ2S13-35□P** | 8 | 19 | 31.2 | 22.5 | 23.1 | 17 | 48 | 48 | 8.1 | 23.9 |
| | 3/8 | **KQ2S13-36□P** | 9.53 | 22 | 26.2 | 22.5 | 18.1 | 17 | 66 | 51.7 | 9.6 | 30.2 |
| | 1/2 | **KQ2S13-37□P** | 9.53 | 26 | 25.6 | 22.5 | 15.2 | 17 | 66 | 51.7 | 9.6 | 43.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.



## Dimensions

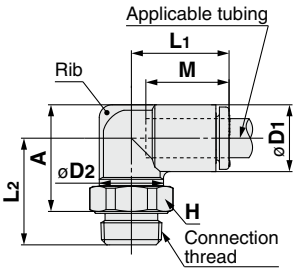
### Male Elbow: KQ2L (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2L01-33□P | 11.11 | 7.1 | 10 | 14.5 | 21.6 | 19.8 | 13.3 | 3 | 2.5 | 2.5 | 14.6 | — |
| | 1/8 | KQ2L01-34□P | 12.7 | 7.1 | 10 | 14.5 | 16.7 | 14.9 | 13.3 | 3 | 2.5 | 2.5 | 6.1 | — |
| | 1/4 | KQ2L01-35□P | 17.46 | 7.1 | 10 | 14.5 | 21.4 | 16.9 | 13.3 | 3 | 2.5 | 2.5 | 18.3 | — |
| ø5/32 | 1/16 | KQ2L03-33□P | 11.11 | 8.2 | 10 | 14.8 | 21.1 | 19.8 | 13.3 | 4.6 | 3.3 | 3 | 14.9 | ● |
| | 1/8 | KQ2L03-34□P | 12.7 | 8.2 | 10 | 14.8 | 16.2 | 14.9 | 13.3 | 4.6 | 3.3 | 3 | 6.3 | ● |
| | 1/4 | KQ2L03-35□P | 17.46 | 8.2 | 10 | 14.8 | 21.9 | 17.9 | 13.3 | 4.6 | 3.3 | 3 | 18.5 | ● |
| ø3/16 | 1/8 | KQ2L05-34□P | 12.7 | 9.1 | 10 | 15 | 16.7 | 15.8 | 13.3 | 6.8 | 5.6 | 3.5 | 6.5 | — |
| | 1/4 | KQ2L05-35□P | 17.46 | 9.1 | 10 | 15 | 22.4 | 18.8 | 13.3 | 6.8 | 5.6 | 3.5 | 18.7 | — |
| ø1/4 | 1/16 | KQ2L07-33□P | 11.11 | 11.1 | 10 | 15.6 | 22.6 | 22.7 | 13.3 | 6.8 | 6.8 | 3.5 | 8 | ● |
| | 1/8 | KQ2L07-34□P | 12.7 | 11.1 | 10 | 15.6 | 17.7 | 17.8 | 13.3 | 11.3 | 10 | 4.5 | 6.8 | ● |
| | 1/4 | KQ2L07-35□P | 17.46 | 11.1 | 10 | 15.6 | 23.4 | 20.8 | 13.3 | 11.3 | 10 | 4.5 | 19 | ● |
| | 3/8 | KQ2L07-36□P | 22 | 11.1 | 10 | 15.6 | 23.9 | 21.3 | 13.3 | 11.3 | 10 | 4.5 | 32.5 | ● |
| ø5/16 | 1/8 | KQ2L09-34□P | 12.7 | 13.2 | 10 | 16.4 | 18.7 | 19.9 | 14.2 | 11.4 | 11.4 | 4.5 | 7.5 | ● |
| | 1/4 | KQ2L09-35□P | 17.46 | 13.2 | 12 | 17.2 | 23.4 | 21.9 | 14.2 | 21.6 | 14.9 | 6 | 15.7 | ● |
| | 3/8 | KQ2L09-36□P | 22 | 13.2 | 12 | 17.2 | 24.9 | 23.4 | 14.2 | 21.6 | 14.9 | 6 | 30.8 | ● |
| ø3/8 | 1/8 | KQ2L11-34□P | 12.7 | 15.4 | 12 | 18.6 | 22.2 | 24.5 | 15.6 | 21.2 | 21.2 | 6 | 10.7 | ● |
| | 1/4 | KQ2L11-35□P | 17.46 | 15.4 | 17 | 19.3 | 25.4 | 24.9 | 15.6 | 28.8 | 23.8 | 7.5 | 18.1 | ● |
| | 3/8 | KQ2L11-36□P | 22 | 15.4 | 17 | 19.3 | 26.1 | 25.6 | 15.6 | 28.8 | 23.8 | 7.5 | 19 | ● |
| | 1/2 | KQ2L11-37□P | 28.57 | 15.4 | 17 | 19.3 | 31.4 | 28.6 | 15.6 | 28.8 | 23.8 | 7.5 | 53.9 | ● |
| ø1/2 | 1/4 | KQ2L13-35□P | 17.46 | 19.3 | 17 | 21.5 | 27.3 | 28.8 | 17 | 50.3 | 44.4 | 9 | 20.4 | — |
| | 3/8 | KQ2L13-36□P | 22 | 19.3 | 17 | 21.8 | 28.2 | 29.7 | 17 | 56 | 44.4 | 9.5 | 34.7 | — |
| | 1/2 | KQ2L13-37□P | 28.57 | 19.3 | 17 | 21.8 | 33.3 | 32.5 | 17 | 56 | 44.4 | 9.5 | 76.4 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



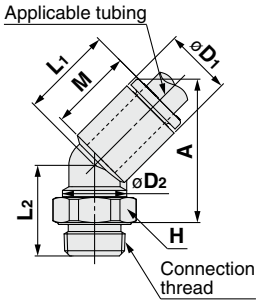

### 45° Male Elbow: KQ2K (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2K01-34□P | 12.7 | 7.1 | 10 | 14.3 | 12.7 | 19.6 | 13.3 | 3 | 2.5 | 2.5 | 5.9 |
| ø5/32 | 1/8 | KQ2K03-34□P | 12.7 | 8.2 | 10 | 14.4 | 12.7 | 20 | 13.3 | 4.8 | 3.4 | 3 | 6.1 |
| ø3/16 | 1/8 | KQ2K05-34□P | 12.7 | 9.1 | 10 | 14.5 | 13.2 | 20.9 | 13.3 | 6.8 | 5.6 | 3.5 | 6.3 |
| ø1/4 | 1/8 | KQ2K07-34□P | 12.7 | 11.1 | 10 | 14.8 | 15.2 | 23.6 | 13.3 | 11.3 | 10 | 4.5 | 6.7 |
| | 1/4 | KQ2K07-35□P | 17.46 | 11.1 | 10 | 14.8 | 19.9 | 25.6 | 13.3 | 11.3 | 10 | 4.5 | 18.9 |
| | 3/8 | KQ2K07-36□P | 22 | 11.1 | 10 | 14.8 | 20.4 | 26.1 | 13.3 | 11.3 | 10 | 4.5 | 32.4 |
| ø5/16 | 1/8 | KQ2K09-34□P | 12.7 | 13.2 | 10 | 16 | 15.7 | 25.7 | 14.2 | 11.3 | 11.3 | 4.5 | 7.4 |
| | 1/4 | KQ2K09-35□P | 17.46 | 13.2 | 12 | 16 | 20.4 | 27.7 | 14.2 | 19.7 | 19.7 | 6 | 15.5 |
| | 3/8 | KQ2K09-36□P | 22 | 13.2 | 12 | 16 | 21.9 | 29.2 | 14.2 | 19.7 | 19.7 | 6 | 30.6 |
| ø3/8 | 1/8 | KQ2K11-34□P | 12.7 | 15.4 | 12 | 18.1 | 20.1 | 32.3 | 15.6 | 21.2 | 21.2 | 6 | 10.6 |
| | 1/4 | KQ2K11-35□P | 17.46 | 15.4 | 17 | 17.7 | 25.4 | 34.6 | 15.6 | 28.8 | 23.8 | 7 | 18.2 |
| | 3/8 | KQ2K11-36□P | 22 | 15.4 | 17 | 17.7 | 20.4 | 29.6 | 15.6 | 28.8 | 23.8 | 7 | 18.4 |
| | 1/2 | KQ2K11-37□P | 28.57 | 15.4 | 17 | 17.7 | 25.7 | 32.6 | 15.6 | 28.8 | 23.8 | 7 | 53.4 |
| ø1/2 | 1/4 | KQ2K13-35□P | 17.46 | 19.3 | 17 | 19.4 | 25.5 | 37.2 | 17 | 50.3 | 44.4 | 9 | 20.2 |
| | 3/8 | KQ2K13-36□P | 22 | 19.3 | 17 | 19.4 | 25.5 | 37.2 | 17 | 56 | 44.4 | 9.5 | 34.4 |
| | 1/2 | KQ2K13-37□P | 28.57 | 19.3 | 17 | 19.4 | 30.6 | 40 | 17 | 56 | 44.4 | 9.5 | 76.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



## Dimensions

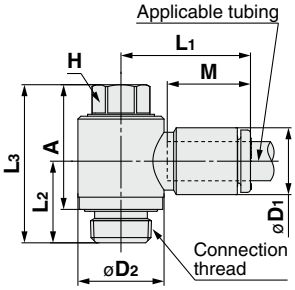
### Universal Male Elbow: KQ2V (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2V01-34□P** | 8 | 7.1 | 14 | 19.3 | 12.9 | 24.8 | 19.4 | 13.3 | 2.2 | 1.9 | 2.5 | 13.1 |
| ø5/32 | 1/8 | **KQ2V03-34□P** | 8 | 8.2 | 14 | 19.3 | 12.9 | 24.8 | 19.4 | 13.3 | 2.9 | 2.9 | 3 | 13.2 |
| ø3/16 | 1/8 | **KQ2V05-34□P** | 8 | 9.1 | 14 | 19.6 | 12.9 | 24.8 | 19.4 | 13.3 | 4.5 | 3.7 | 3.5 | 13.4 |
| ø1/4 | 1/8 | **KQ2V07-34□P** | 8 | 11.1 | 14 | 20.6 | 12.9 | 24.8 | 19.4 | 13.3 | 7.5 | 6.6 | 4.5 | 13.7 |
| | 1/4 | **KQ2V07-35□P** | 8 | 11.1 | 18 | 19.9 | 17.4 | 30.8 | 22.7 | 13.3 | 7.5 | 6.6 | 4.5 | 23.9 |
| ø5/16 | 1/8 | **KQ2V09-34□P** | 11.11 | 13.2 | 17.6 | 23.5 | 14.3 | 26.8 | 21.4 | 14.2 | 16 | 11.2 | 6 | 22.4 |
| | 1/4 | **KQ2V09-35□P** | 11.11 | 13.2 | 18 | 23.5 | 17.2 | 29.7 | 21.6 | 14.2 | 16 | 11.2 | 6 | 27.2 |
| | 3/8 | **KQ2V09-36□P** | 12.7 | 13.2 | 22 | 23.1 | 17.9 | 33.7 | 25.6 | 14.2 | 16 | 11.2 | 6 | 41.3 |
| ø3/8 | 1/4 | **KQ2V11-35□P** | 12.7 | 15.4 | 20.6 | 25.8 | 18.3 | 33.6 | 25.5 | 15.6 | 23.4 | 19.3 | 7 | 35.7 |
| | 3/8 | **KQ2V11-36□P** | 12.7 | 15.4 | 22 | 25.8 | 18.4 | 33.7 | 25.6 | 15.6 | 23.4 | 19.3 | 7 | 42.4 |
| ø1/2 | 3/8 | **KQ2V13-36□P** | 17.46 | 19.3 | 27 | 30.5 | 18.6 | 33.5 | 25.4 | 17 | 38.8 | 34.3 | 7.5 | 65.1 |
| | 1/2 | **KQ2V13-37□P** | 17.46 | 19.3 | 27 | 30.5 | 21.3 | 36.2 | 25.8 | 17 | 38.8 | 34.3 | 9 | 75.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.



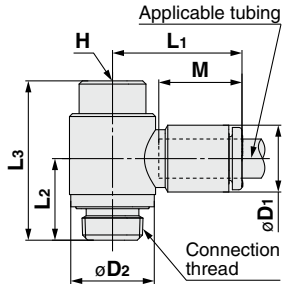

### Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VS01-34□P** | 6.35 | 7.1 | 14 | 19.3 | 12.9 | 25 | 19.6 | 13.3 | 2.2 | 1.9 | 2.5 | 12.7 |
| ø5/32 | 1/8 | **KQ2VS03-34□P** | 6.35 | 8.2 | 14 | 19.3 | 12.9 | 25 | 19.6 | 13.3 | 2.9 | 2.9 | 3 | 12.8 |
| ø3/16 | 1/8 | **KQ2VS05-34□P** | 6.35 | 9.1 | 14 | 19.6 | 12.9 | 25 | 19.6 | 13.3 | 4.5 | 3.7 | 3.5 | 13.1 |
| ø1/4 | 1/8 | **KQ2VS07-34□P** | 6.35 | 11.1 | 14 | 20.6 | 12.9 | 25 | 19.6 | 13.3 | 7.7 | 6.6 | 4.6 | 13.4 |
| | 1/4 | **KQ2VS07-35□P** | 6.35 | 11.1 | 18 | 19.9 | 17.4 | 26.8 | 18.7 | 13.3 | 7.7 | 6.6 | 4.6 | 20.9 |
| ø5/16 | 1/8 | **KQ2VS09-34□P** | 8 | 13.2 | 17.6 | 23.5 | 14.3 | 25.2 | 19.8 | 14.2 | 16 | 11.2 | 6 | 19.6 |
| | 1/4 | **KQ2VS09-35□P** | 8 | 13.2 | 18 | 23.5 | 17.2 | 28.2 | 20.1 | 14.2 | 16 | 11.2 | 6 | 24.5 |
| | 3/8 | **KQ2VS09-36□P** | 8 | 13.2 | 22 | 23.1 | 17.9 | 29.8 | 21.7 | 14.2 | 16 | 11.2 | 6 | 35.1 |
| ø3/8 | 1/4 | **KQ2VS11-35□P** | 8 | 15.4 | 20.6 | 25.8 | 18.3 | 29.5 | 21.4 | 15.6 | 23.4 | 19.3 | 7 | 29.3 |
| | 3/8 | **KQ2VS11-36□P** | 8 | 15.4 | 22 | 25.8 | 18.4 | 29.8 | 21.7 | 15.6 | 23.4 | 19.3 | 7 | 36.3 |
| ø1/2 | 3/8 | **KQ2VS13-36□P** | 9.53 | 19.3 | 27 | 30.5 | 18.6 | 32 | 23.9 | 17 | 38.8 | 34.3 | 9 | 57.6 |
| | 1/2 | **KQ2VS13-37□P** | 9.53 | 19.3 | 27 | 30.5 | 21.3 | 34.7 | 24.3 | 17 | 38.8 | 34.3 | 9 | 70.9 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.



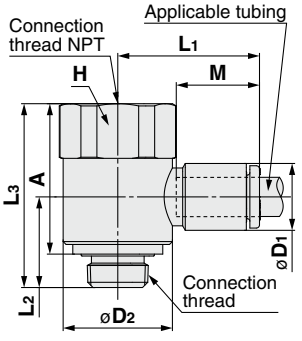

### Universal Female Elbow: KQ2VF (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2VF01-34□P** | 17.46 | 7.1 | 17 | 21.2 | 14.3 | 28.8 | 23.4 | 13.3 | 2.2 | 1.9 | 2.5 | 28.4 |
| ø5/32 | 1/8 | **KQ2VF03-34□P** | 17.46 | 8.2 | 17 | 21.2 | 14.3 | 28.8 | 23.4 | 13.3 | 2.9 | 2.9 | 3 | 28.5 |
| ø3/16 | 1/8 | **KQ2VF05-34□P** | 17.46 | 9.1 | 17 | 21.5 | 14.3 | 28.8 | 23.4 | 13.3 | 4.5 | 3.7 | 3.5 | 28.7 |
| ø1/4 | 1/8 | **KQ2VF07-34□P** | 17.46 | 11.1 | 17 | 22.5 | 14.3 | 28.8 | 23.4 | 13.3 | 7.7 | 6.6 | 4.6 | 29 |
| | 1/4 | **KQ2VF07-35□P** | 22.23 | 11.1 | 21.7 | 23.2 | 18.1 | 36.9 | 28.8 | 13.3 | 7.7 | 6.6 | 4.6 | 62.4 |
| ø5/16 | 1/8 | **KQ2VF09-34□P** | 17.46 | 13.2 | 17.6 | 23.5 | 15 | 30.5 | 25.1 | 14.2 | 16 | 11.2 | 6 | 30.2 |
| | 1/4 | **KQ2VF09-35□P** | 22.23 | 13.2 | 21.6 | 25.1 | 18.3 | 36.9 | 28.8 | 14.2 | 16 | 11.2 | 6 | 63.2 |
| | 3/8 | **KQ2VF09-36□P** | 25.4 | 13.2 | 27.7 | 26.2 | 22.7 | 42.7 | 34.6 | 14.2 | 16 | 11.2 | 6 | 87.2 |
| ø3/8 | 1/4 | **KQ2VF11-35□P** | 22.23 | 15.4 | 22.6 | 26.4 | 19.7 | 39.2 | 31.1 | 15.6 | 23.4 | 19.3 | 7 | 62.1 |
| | 3/8 | **KQ2VF11-36□P** | 25.4 | 15.4 | 27.7 | 27.6 | 22.2 | 42.7 | 34.6 | 15.6 | 23.4 | 19.3 | 7 | 88 |
| ø1/2 | 3/8 | **KQ2VF13-36□P** | 25.4 | 19.3 | 27.7 | 30.7 | 20.9 | 42.7 | 34.6 | 17 | 38.8 | 34.3 | 9 | 90.2 |
| | 1/2 | **KQ2VF13-37□P** | 28.57 | 19.3 | 31.6 | 32.8 | 22.6 | 47.1 | 36.7 | 17 | 38.8 | 34.3 | 9 | 136 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.



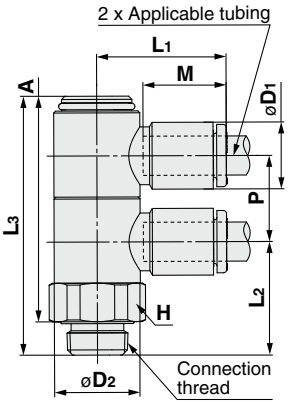
## Dimensions

### Double Universal Male Elbow: KQ2VD (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2VD01-34□P | 14.29 | 7.1 | 13.4 | 19.3 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 22.8 |
| ø5/32 | 1/8 | KQ2VD03-34□P | 14.29 | 8.2 | 13.4 | 19.3 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 23.1 |
| ø3/16 | 1/8 | KQ2VD05-34□P | 14.29 | 9.1 | 13.4 | 19.6 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 23.3 |
| ø1/4 | 1/8 | KQ2VD07-34□P | 14.29 | 11.1 | 13.4 | 20.6 | 19.2 | 42.3 | 36.9 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 25.6 |
| | 1/4 | KQ2VD07-35□P | 17.46 | 11.1 | 13.4 | 20.6 | 22.4 | 45.5 | 37.4 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 35.4 |
| | 3/8 | KQ2VD07-36□P | 22 | 11.1 | 13.4 | 20.6 | 23.9 | 47 | 38.9 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 53.4 |
| ø5/16 | 1/4 | KQ2VD09-35□P | 19 | 13.2 | 17.6 | 23.7 | 23.9 | 50.7 | 42.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 49.3 |
| | 3/8 | KQ2VD09-36□P | 22 | 13.2 | 17.6 | 23.7 | 24.9 | 51.7 | 43.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 63.4 |
| | 1/2 | KQ2VD09-37□P | 28.57 | 13.2 | 17.6 | 23.7 | 30.2 | 57 | 46.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 113.5 |
| ø3/8 | 1/4 | KQ2VD11-35□P | 22 | 15.4 | 20.6 | 25.3 | 26.1 | 58 | 49.9 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 72.2 |
| | 3/8 | KQ2VD11-36□P | 22 | 15.4 | 20.6 | 25.3 | 26.1 | 58 | 49.9 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 71.2 |
| | 1/2 | KQ2VD11-37□P | 28.57 | 15.4 | 20.6 | 25.3 | 31.4 | 63.3 | 52.9 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 119.3 |
| ø1/2 | 3/8 | KQ2VD13-36□P | 28.57 | 19.3 | 27 | 30.5 | 31 | 65.8 | 57.7 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 150.7 |
| | 1/2 | KQ2VD13-37□P | 28.57 | 19.3 | 27 | 30.5 | 33.3 | 68.1 | 57.7 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 161.2 |

□: A (Brass), N (Brass + Electroless nickel plating)  *1 ø$D_1$ is maximum diameter.

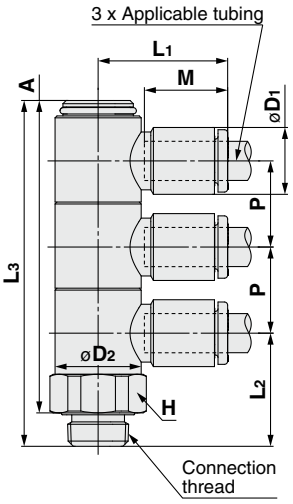



### Triple Universal Male Elbow: KQ2VT (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2VT01-34□P | 14.29 | 7.1 | 13.4 | 19.3 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 2.2 | 1.9 | 2.5 | 28.3 |
| ø5/32 | 1/8 | KQ2VT03-34□P | 14.29 | 8.2 | 13.4 | 19.3 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 2.9 | 2.9 | 3 | 28.7 |
| ø3/16 | 1/8 | KQ2VT05-34□P | 14.29 | 9.1 | 13.4 | 19.6 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 4.5 | 3.7 | 3.5 | 29 |
| ø1/4 | 1/8 | KQ2VT07-34□P | 14.29 | 11.1 | 13.4 | 20.6 | 19.2 | 56.1 | 50.7 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 32.1 |
| | 1/4 | KQ2VT07-35□P | 17.46 | 11.1 | 13.4 | 20.6 | 22.4 | 59.3 | 51.2 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 41.9 |
| | 3/8 | KQ2VT07-36□P | 22 | 11.1 | 13.4 | 20.6 | 23.9 | 60.8 | 52.7 | 13.3 | 13.8 | 7.7 | 6.6 | 4.6 | 59.9 |
| ø5/16 | 1/4 | KQ2VT09-35□P | 19 | 13.2 | 17.6 | 23.7 | 23.9 | 66.7 | 58.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 61.4 |
| | 3/8 | KQ2VT09-36□P | 22 | 13.2 | 17.6 | 23.7 | 24.9 | 67.7 | 59.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 75.5 |
| | 1/2 | KQ2VT09-37□P | 28.57 | 13.2 | 17.6 | 23.7 | 30.2 | 73 | 62.6 | 14.2 | 15.9 | 16 | 11.2 | 6 | 125.4 |
| ø3/8 | 1/4 | KQ2VT11-35□P | 22 | 15.4 | 20.6 | 25.3 | 26.1 | 77.3 | 69.2 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 90.8 |
| | 3/8 | KQ2VT11-36□P | 22 | 15.4 | 20.6 | 25.3 | 26.1 | 77.3 | 69.2 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 87.8 |
| | 1/2 | KQ2VT11-37□P | 28.57 | 15.4 | 20.6 | 25.3 | 31.4 | 82.6 | 72.2 | 15.6 | 19.2 | 23.4 | 19.3 | 7 | 136 |
| ø1/2 | 3/8 | KQ2VT13-36□P | 28.57 | 19.3 | 27 | 30.5 | 31 | 88.2 | 80.1 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 191.4 |
| | 1/2 | KQ2VT13-37□P | 28.57 | 19.3 | 27 | 30.5 | 33.3 | 90.5 | 80.1 | 17 | 22.3 | 43.8 | 34.3 | 9.6 | 191.5 |

□: A (Brass), N (Brass + Electroless nickel plating)  *1 ø$D_1$ is maximum diameter.

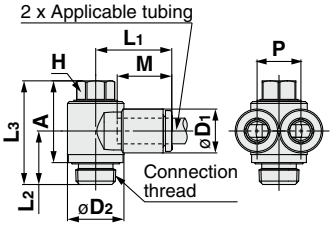



### Branch Universal Male Elbow: KQ2Z (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | P | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2Z01-34□P | 8 | 7.1 | 14 | 18.5 | 12.9 | 24.8 | 19.4 | 13.3 | 7.1 | 2.2 | 1.9 | 2.5 | 13.8 |
| ø5/32 | 1/8 | KQ2Z03-34□P | 8 | 8.2 | 14 | 18.5 | 12.9 | 24.8 | 19.4 | 13.3 | 8.2 | 2.9 | 2.9 | 3 | 14 |
| ø3/16 | 1/8 | KQ2Z05-34□P | 8 | 9.1 | 14 | 18.4 | 12.9 | 24.8 | 19.4 | 13.3 | 9.1 | 4.5 | 3.7 | 3.5 | 14.3 |
| ø1/4 | 1/8 | KQ2Z07-34□P | 8 | 11.1 | 14 | 18.4 | 12.9 | 24.8 | 19.4 | 13.3 | 11.1 | 7.5 | 6.6 | 4.5 | 14.8 |
| | 1/4 | KQ2Z07-35□P | 11.11 | 11.1 | 18 | 20.4 | 16.7 | 29.7 | 21.6 | 13.3 | 11.1 | 7.7 | 6.6 | 4.6 | 27.6 |
| ø5/16 | 1/8 | KQ2Z09-34□P | 11.11 | 13.2 | 17.6 | 21.2 | 14.3 | 26.8 | 21.4 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 24.1 |
| | 1/4 | KQ2Z09-35□P | 11.11 | 13.2 | 18 | 21.2 | 17.2 | 29.7 | 21.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 29 |
| | 3/8 | KQ2Z09-36□P | 12.7 | 13.2 | 22 | 22.3 | 17.9 | 33.7 | 25.6 | 14.2 | 13.2 | 20.5 | 14.2 | 6 | 43.2 |
| ø3/8 | 1/4 | KQ2Z11-35□P | 12.7 | 15.4 | 20.6 | 25.9 | 17.8 | 33.6 | 25.5 | 15.6 | 15.4 | 23.4 | 19.3 | 7 | 38.9 |
| | 3/8 | KQ2Z11-36□P | 12.7 | 15.4 | 22 | 25.9 | 17.9 | 33.7 | 25.6 | 15.6 | 15.4 | 23.4 | 19.3 | 7 | 45.6 |
| ø1/2 | 3/8 | KQ2Z13-36□P | 17.46 | 19.3 | 27 | 30.1 | 18.6 | 33.5 | 25.4 | 17 | 19.3 | 26.9 | 26.9 | 7.5 | 70.6 |
| | 1/2 | KQ2Z13-37□P | 17.46 | 19.3 | 27 | 30.1 | 21.3 | 36.2 | 25.8 | 17 | 19.3 | 38.8 | 34.3 | 9 | 80.6 |

□: A (Brass), N (Brass + Electroless nickel plating)  *1 ø$D_1$ is maximum diameter.



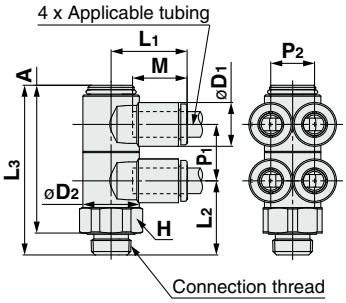
## Dimensions

### Double Branch Universal Male Elbow: KQ2ZD (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | $P_1$ | $P_2$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2ZD01-34□P | 14.29 | 7.1 | 13.4 | 18.5 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 7.1 | 2.2 | 1.9 | 2.5 | 24.1 |
| ø5/32 | 1/8 | KQ2ZD03-34□P | 14.29 | 8.2 | 13.4 | 18.5 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 8.2 | 2.9 | 2.9 | 3 | 24.7 |
| ø3/16 | 1/8 | KQ2ZD05-34□P | 14.29 | 9.1 | 13.4 | 18.4 | 18.2 | 40.9 | 35.5 | 13.3 | 13.4 | 9.1 | 4.5 | 3.7 | 3.5 | 25.2 |
| ø1/4 | 1/8 | KQ2ZD07-34□P | 14.29 | 11.1 | 13.4 | 18.3 | 19.2 | 42.3 | 36.9 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 27.9 |
| | 1/4 | KQ2ZD07-35□P | 17.46 | 11.1 | 13.4 | 18.3 | 22.4 | 45.5 | 37.4 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 37.7 |
| | 3/8 | KQ2ZD07-36□P | 22 | 11.1 | 13.4 | 18.3 | 23.9 | 47 | 38.9 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 55.7 |
| ø5/16 | 1/4 | KQ2ZD09-35□P | 19 | 13.2 | 17.6 | 21.2 | 23.9 | 50.7 | 42.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 52.9 |
| | 3/8 | KQ2ZD09-36□P | 22 | 13.2 | 17.6 | 21.2 | 24.9 | 51.7 | 43.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 67 |
| | 1/2 | KQ2ZD09-37□P | 28.57 | 13.2 | 17.6 | 21.2 | 30.2 | 57 | 46.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 117.1 |
| ø3/8 | 1/4 | KQ2ZD11-35□P | 22 | 15.4 | 20.6 | 23.6 | 26.1 | 58 | 49.9 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 77.8 |
| | 3/8 | KQ2ZD11-36□P | 22 | 15.4 | 20.6 | 23.6 | 26.1 | 58 | 49.9 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 76.8 |
| | 1/2 | KQ2ZD11-37□P | 28.57 | 15.4 | 20.6 | 23.6 | 31.4 | 63.3 | 52.9 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 124.9 |
| ø1/2 | 3/8 | KQ2ZD13-36□P | 28.57 | 19.3 | 27 | 27.9 | 31 | 65.8 | 57.7 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 159.4 |
| | 1/2 | KQ2ZD13-37□P | 28.57 | 19.3 | 27 | 27.9 | 33.3 | 68.1 | 57.7 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 169.9 |

□: A (Brass), N (Brass + Electroless nickel plating)　　*1 ø$D_1$ is maximum diameter.

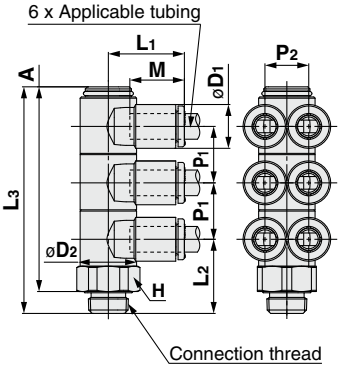



### Triple Branch Universal Male Elbow: KQ2ZT (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A | M | $P_1$ | $P_2$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2ZT01-34□P | 14.29 | 7.1 | 13.4 | 18.5 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 7.1 | 2.2 | 1.9 | 2.5 | 30.2 |
| ø5/32 | 1/8 | KQ2ZT03-34□P | 14.29 | 8.2 | 13.4 | 18.5 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 8.2 | 2.9 | 2.9 | 3 | 31.1 |
| ø3/16 | 1/8 | KQ2ZT05-34□P | 14.29 | 9.1 | 13.4 | 18.4 | 18.2 | 54.4 | 49 | 13.3 | 13.4 | 9.1 | 4.5 | 3.7 | 3.5 | 31.9 |
| ø1/4 | 1/8 | KQ2ZT07-34□P | 14.29 | 11.1 | 13.4 | 18.3 | 19.2 | 56.1 | 50.7 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 35.5 |
| | 1/4 | KQ2ZT07-35□P | 17.46 | 11.1 | 13.4 | 18.3 | 22.4 | 59.3 | 51.2 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 45.3 |
| | 3/8 | KQ2ZT07-36□P | 22 | 11.1 | 13.4 | 18.3 | 23.9 | 60.8 | 52.7 | 13.3 | 13.8 | 11.1 | 7.7 | 6.6 | 4.6 | 63.3 |
| ø5/16 | 1/4 | KQ2ZT09-35□P | 19 | 13.2 | 17.6 | 21.2 | 23.9 | 66.7 | 58.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 66.9 |
| | 3/8 | KQ2ZT09-36□P | 22 | 13.2 | 17.6 | 21.2 | 24.9 | 67.7 | 59.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 81 |
| | 1/2 | KQ2ZT09-37□P | 28.57 | 13.2 | 17.6 | 21.2 | 30.2 | 73 | 62.6 | 14.2 | 15.9 | 13.2 | 20.5 | 14.2 | 6 | 130.9 |
| ø3/8 | 1/4 | KQ2ZT11-35□P | 22 | 15.4 | 20.6 | 23.6 | 26.1 | 77.3 | 69.2 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 96.2 |
| | 3/8 | KQ2ZT11-36□P | 22 | 15.4 | 20.6 | 23.6 | 26.1 | 77.3 | 69.2 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 96.2 |
| | 1/2 | KQ2ZT11-37□P | 28.57 | 15.4 | 20.6 | 23.6 | 31.4 | 82.6 | 72.2 | 15.6 | 19.2 | 15.4 | 23.4 | 19.3 | 7 | 96.3 |
| ø1/2 | 3/8 | KQ2ZT13-36□P | 28.57 | 19.3 | 27 | 27.9 | 31 | 88.2 | 80.1 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 204.4 |
| | 1/2 | KQ2ZT13-37□P | 28.57 | 19.3 | 27 | 27.9 | 33.3 | 90.5 | 80.1 | 17 | 22.3 | 19.3 | 43.8 | 34.3 | 9.6 | 204.4 |

□: A (Brass), N (Brass + Electroless nickel plating)　　*1 ø$D_1$ is maximum diameter.



## Dimensions

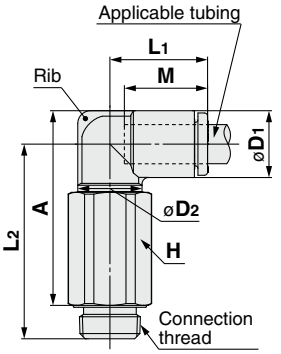
### Extended Male Elbow: KQ2W (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2W01-33□P | 11.11 | 7.1 | 10 | 14.5 | 33.2 | 31.4 | 13.3 | 2.8 | 2.4 | 2.5 | 14.3 | — |
| | 1/8 | KQ2W01-34□P | 12.7 | 7.1 | 10 | 14.5 | 30.3 | 28.5 | 13.3 | 2.8 | 2.4 | 2.5 | 18 | — |
| | 1/4 | KQ2W01-35□P | 17.46 | 7.1 | 10 | 14.5 | 33 | 28.5 | 13.3 | 2.8 | 2.4 | 2.5 | 39.9 | — |
| ø5/32 | 1/16 | KQ2W03-33□P | 11.11 | 8.2 | 10 | 14.8 | 32.7 | 31.4 | 13.3 | 4 | 4 | 3 | 14.4 | ● |
| | 1/8 | KQ2W03-34□P | 12.7 | 8.2 | 10 | 14.8 | 29.9 | 28.6 | 13.3 | 4 | 4 | 3 | 18.2 | ● |
| | 1/4 | KQ2W03-35□P | 17.46 | 8.2 | 10 | 14.8 | 33.5 | 29.5 | 13.3 | 4 | 4 | 3 | 40.1 | ● |
| ø3/16 | 1/8 | KQ2W05-34□P | 12.7 | 9.1 | 10 | 15 | 30.4 | 29.5 | 13.3 | 6.8 | 5.6 | 3.5 | 18.4 | — |
| | 1/4 | KQ2W05-35□P | 17.46 | 9.1 | 10 | 15 | 34 | 30.5 | 13.3 | 6.8 | 5.6 | 3.5 | 40.3 | — |
| ø1/4 | 1/16 | KQ2W07-33□P | 11.11 | 11.1 | 10 | 15.6 | 34.2 | 34.4 | 13.3 | 6.8 | 6.8 | 3.5 | 15 | ● |
| | 1/8 | KQ2W07-34□P | 12.7 | 11.1 | 10 | 15.6 | 31.4 | 31.5 | 13.3 | 11.3 | 10 | 4.5 | 18.7 | ● |
| | 1/4 | KQ2W07-35□P | 17.46 | 11.1 | 10 | 15.6 | 35 | 32.5 | 13.3 | 11.3 | 10 | 4.5 | 40.7 | ● |
| | 3/8 | KQ2W07-36□P | 22 | 11.1 | 10 | 15.6 | 35.5 | 33 | 13.3 | 11.3 | 10 | 4.5 | 67.5 | ● |
| ø5/16 | 1/8 | KQ2W09-34□P | 12.7 | 13.2 | 10 | 16.4 | 32.4 | 33.6 | 14.2 | 11.3 | 11.3 | 4.5 | 19.5 | ● |
| | 1/4 | KQ2W09-35□P | 17.46 | 13.2 | 12 | 17.2 | 37.1 | 35.6 | 14.2 | 20.5 | 14.2 | 6 | 38.9 | ● |
| | 3/8 | KQ2W09-36□P | 22 | 13.2 | 12 | 17.2 | 38.6 | 37.1 | 14.2 | 20.5 | 14.2 | 6 | 69.6 | ● |
| ø3/8 | 1/4 | KQ2W11-35□P | 17.46 | 15.4 | 17 | 19.3 | 45.1 | 44.7 | 15.6 | 28.8 | 23.8 | 7.5 | 49.7 | ● |
| | 3/8 | KQ2W11-36□P | 22 | 15.4 | 17 | 19.3 | 42 | 41.6 | 15.6 | 28.8 | 23.8 | 7.5 | 55.8 | ● |
| | 1/2 | KQ2W11-37□P | 28.57 | 15.4 | 17 | 19.3 | 47.3 | 44.6 | 15.6 | 28.8 | 23.8 | 7.5 | 128.9 | ● |
| ø1/2 | 1/4 | KQ2W13-35□P | 17.46 | 19.3 | 17 | 21.5 | 47 | 48.6 | 17 | 50.3 | 44.4 | 9 | 52 | — |
| | 3/8 | KQ2W13-36□P | 22 | 19.3 | 17 | 21.8 | 47.9 | 49.5 | 17 | 56 | 44.4 | 9.5 | 86.7 | — |
| | 1/2 | KQ2W13-37□P | 28.57 | 19.3 | 17 | 21.8 | 53 | 52.3 | 17 | 56 | 44.4 | 9.5 | 168 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



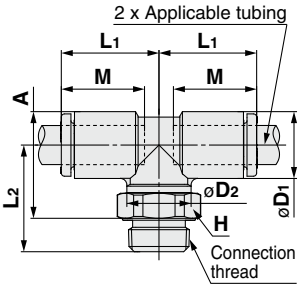

### Male Branch Tee: KQ2T (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | KQ2T01-33□P | 11.11 | 7.1 | 10 | 14.5 | 21.5 | 19.7 | 13.3 | 3.4 | 2.9 | 2.5 | 7.7 |
| | 1/8 | KQ2T01-34□P | 12.7 | 7.1 | 10 | 14.5 | 16.6 | 14.8 | 13.3 | 3.4 | 2.9 | 2.5 | 6.7 |
| | 1/4 | KQ2T01-35□P | 17.46 | 7.1 | 10 | 14.5 | 21.3 | 16.8 | 13.3 | 3.4 | 2.9 | 2.5 | 18.9 |
| ø5/32 | 1/16 | KQ2T03-33□P | 11.11 | 8.2 | 10 | 14.8 | 21.1 | 19.8 | 13.3 | 6 | 4.1 | 3 | 16.3 |
| | 1/8 | KQ2T03-34□P | 12.7 | 8.2 | 10 | 14.8 | 16.2 | 14.9 | 13.3 | 6 | 4.1 | 3 | 7 |
| | 1/4 | KQ2T03-35□P | 17.46 | 8.2 | 10 | 14.8 | 21.9 | 17.9 | 13.3 | 6 | 4.1 | 3 | 19.2 |
| ø3/16 | 1/8 | KQ2T05-34□P | 12.7 | 9.1 | 10 | 15 | 16.7 | 15.8 | 13.3 | 8.4 | 7 | 3.5 | 7.3 |
| | 1/4 | KQ2T05-35□P | 17.46 | 9.1 | 10 | 15 | 22.4 | 18.8 | 13.3 | 8.4 | 7 | 3.5 | 19.5 |
| ø1/4 | 1/16 | KQ2T07-33□P | 11.11 | 11.1 | 10 | 15.6 | 22.6 | 22.7 | 13.3 | 8.5 | 8.5 | 3.5 | 9.1 |
| | 1/8 | KQ2T07-34□P | 12.7 | 11.1 | 10 | 15.6 | 17.7 | 17.8 | 13.3 | 14 | 12.4 | 4.5 | 7.9 |
| | 1/4 | KQ2T07-35□P | 17.46 | 11.1 | 10 | 15.6 | 23.4 | 20.8 | 13.3 | 14 | 12.4 | 4.5 | 20.2 |
| | 3/8 | KQ2T07-36□P | 22 | 11.1 | 10 | 15.6 | 23.9 | 21.3 | 13.3 | 14 | 12.4 | 4.5 | 33.7 |
| ø5/16 | 1/8 | KQ2T09-34□P | 12.7 | 13.2 | 10 | 16.4 | 18.7 | 19.9 | 14.2 | 14 | 14 | 4.5 | 9.4 |
| | 1/4 | KQ2T09-35□P | 17.46 | 13.2 | 12 | 17.2 | 23.4 | 21.9 | 14.2 | 26.3 | 18.2 | 6 | 17.4 |
| | 3/8 | KQ2T09-36□P | 22 | 13.2 | 12 | 17.2 | 24.9 | 23.4 | 14.2 | 26.3 | 18.2 | 6 | 32.5 |
| ø3/8 | 1/8 | KQ2T11-34□P | 12.7 | 15.4 | 12 | 18.6 | 22.1 | 24.4 | 15.6 | 21.2 | 21.2 | 6 | 13.3 |
| | 1/4 | KQ2T11-35□P | 17.46 | 15.4 | 17 | 19.3 | 25.3 | 24.9 | 15.6 | 28.8 | 23.8 | 7.5 | 20.5 |
| | 3/8 | KQ2T11-36□P | 22 | 15.4 | 17 | 19.3 | 26 | 25.6 | 15.6 | 28.8 | 23.8 | 7.5 | 21.4 |
| | 1/2 | KQ2T11-37□P | 28.57 | 15.4 | 17 | 19.3 | 31.3 | 28.6 | 15.6 | 28.8 | 23.8 | 7.5 | 56.4 |
| ø1/2 | 1/4 | KQ2T13-35□P | 17.46 | 19.3 | 17 | 21.5 | 27.2 | 28.8 | 17 | 57.3 | 50.6 | 9 | 24.5 |
| | 3/8 | KQ2T13-36□P | 22 | 19.3 | 17 | 21.8 | 28.1 | 29.7 | 17 | 63.8 | 50.6 | 9.5 | 38.9 |
| | 1/2 | KQ2T13-37□P | 28.57 | 19.3 | 17 | 21.8 | 33.2 | 32.5 | 17 | 63.8 | 50.6 | 9.5 | 80.6 |

□: A (Brass), N (Brass + Electroless nickel plating)

∗1 øD1 is maximum diameter.



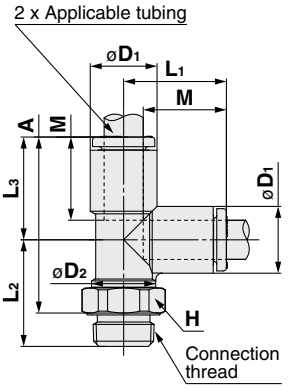
## Dimensions

### Male Run Tee: KQ2Y (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2Y01-33□P** | 11.11 | 7.1 | 10 | 14.9 | 21.5 | 14.9 | 31.1 | 13.3 | 3.4 | 2.9 | 2.5 | 15.8 |
| | 1/8 | **KQ2Y01-34□P** | 12.7 | 7.1 | 10 | 14.9 | 16.6 | 14.9 | 26.2 | 13.3 | 3.4 | 2.9 | 2.5 | 6.7 |
| | 1/4 | **KQ2Y01-35□P** | 17.46 | 7.1 | 10 | 14.9 | 21.3 | 14.9 | 28.2 | 13.3 | 3.4 | 2.9 | 2.5 | 18.9 |
| ø5/32 | 1/16 | **KQ2Y03-33□P** | 11.11 | 8.2 | 10 | 15.3 | 21.1 | 15.3 | 31 | 13.3 | 6.4 | 4.4 | 3 | 16.4 |
| | 1/8 | **KQ2Y03-34□P** | 12.7 | 8.2 | 10 | 15.3 | 16.2 | 15.3 | 26.1 | 13.3 | 6.4 | 4.4 | 3 | 7 |
| | 1/4 | **KQ2Y03-35□P** | 17.46 | 8.2 | 10 | 15.3 | 21.9 | 15.3 | 29.1 | 13.3 | 6.4 | 4.4 | 3 | 19.2 |
| ø3/16 | 1/8 | **KQ2Y05-34□P** | 12.7 | 9.1 | 10 | 15.7 | 16.7 | 15.7 | 27 | 13.3 | 8.4 | 7 | 3.5 | 7.3 |
| | 1/4 | **KQ2Y05-35□P** | 17.46 | 9.1 | 10 | 15.7 | 22.4 | 15.7 | 30 | 13.3 | 8.4 | 7 | 3.5 | 19.6 |
| ø1/4 | 1/16 | **KQ2Y07-33□P** | 11.11 | 11.1 | 10 | 16.5 | 22.6 | 16.5 | 33.7 | 13.3 | 8.5 | 8.5 | 3.5 | 9.2 |
| | 1/8 | **KQ2Y07-34□P** | 12.7 | 11.1 | 10 | 16.5 | 17.7 | 16.5 | 28.8 | 13.3 | 14 | 12.4 | 4.5 | 8 |
| | 1/4 | **KQ2Y07-35□P** | 17.46 | 11.1 | 10 | 16.5 | 23.4 | 16.5 | 31.8 | 13.3 | 14 | 12.4 | 4.5 | 20.2 |
| | 3/8 | **KQ2Y07-36□P** | 22 | 11.1 | 10 | 16.5 | 23.9 | 16.5 | 32.3 | 13.3 | 14 | 12.4 | 4.5 | 33.7 |
| ø5/16 | 1/8 | **KQ2Y09-34□P** | 12.7 | 13.2 | 10 | 18.2 | 18.7 | 18.2 | 31.5 | 14.2 | 14 | 14 | 4.5 | 9.4 |
| | 1/4 | **KQ2Y09-35□P** | 17.46 | 13.2 | 12 | 18.2 | 23.4 | 18.2 | 33.5 | 14.2 | 25.6 | 17.7 | 6 | 17.5 |
| | 3/8 | **KQ2Y09-36□P** | 22 | 13.2 | 12 | 18.2 | 24.9 | 18.2 | 35 | 14.2 | 25.6 | 17.7 | 6 | 32.6 |
| ø3/8 | 1/4 | **KQ2Y11-35□P** | 17.46 | 15.4 | 17 | 20.4 | 25.3 | 20.4 | 37.6 | 15.6 | 28.8 | 23.8 | 7.5 | 20.7 |
| | 3/8 | **KQ2Y11-36□P** | 22 | 15.4 | 17 | 20.4 | 26 | 20.4 | 38.3 | 15.6 | 28.8 | 23.8 | 7.5 | 21.5 |
| | 1/2 | **KQ2Y11-37□P** | 28.57 | 15.4 | 17 | 20.4 | 31.3 | 20.4 | 41.3 | 15.6 | 28.8 | 23.8 | 7.5 | 56.5 |
| ø1/2 | 1/4 | **KQ2Y13-35□P** | 17.46 | 19.3 | 17 | 23.4 | 27.2 | 23.4 | 42.5 | 17 | 57.3 | 50.6 | 9 | 24.9 |
| | 3/8 | **KQ2Y13-36□P** | 22 | 19.3 | 17 | 23.4 | 28.1 | 23.4 | 43.4 | 17 | 63.8 | 50.6 | 9.5 | 39.1 |
| | 1/2 | **KQ2Y13-37□P** | 28.57 | 19.3 | 17 | 23.4 | 33.2 | 23.4 | 46.2 | 17 | 63.8 | 50.6 | 9.5 | 80.8 |

□: A (Brass), N (Brass + Electroless nickel plating)  ∗1 øD1 is maximum diameter.

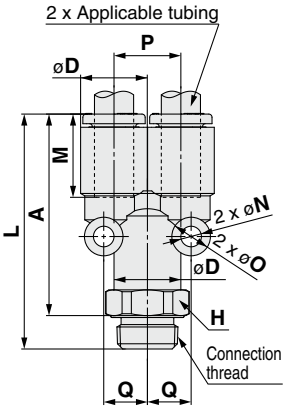



### Branch "Y": KQ2U (Face seal)



| Applicable tubing O.D. [inch] | Connection thread NPT | Model | H (Width across flats) | ∗1 øD | L | P | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/16 | **KQ2U01-33□P** | 11.11 | 7.1 | 35.9 | 7.1 | 30.5 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.5 | 7.2 |
| | 1/8 | **KQ2U01-34□P** | 12.7 | 7.1 | 35.9 | 7.1 | 30.5 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 9.8 |
| | 1/4 | **KQ2U01-35□P** | 17.46 | 7.1 | 39.6 | 7.1 | 31.5 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 20.3 |
| ø5/32 | 1/16 | **KQ2U03-33□P** | 11.11 | 8.2 | 36 | 8.2 | 30.6 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 7.5 |
| | 1/8 | **KQ2U03-34□P** | 12.7 | 8.2 | 36 | 8.2 | 30.6 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 10.1 |
| | 1/4 | **KQ2U03-35□P** | 17.46 | 8.2 | 39.7 | 8.2 | 31.6 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 20.5 |
| ø3/16 | 1/8 | **KQ2U05-34□P** | 12.7 | 9.1 | 36.6 | 9.1 | 31.2 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 4.1 | 10.6 |
| | 1/4 | **KQ2U05-35□P** | 17.46 | 9.1 | 40.3 | 9.1 | 32.2 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7 | 4.1 | 20.9 |
| ø1/4 | 1/16 | **KQ2U07-33□P** | 12.7 | 11.1 | 37.3 | 11.1 | 31.9 | 13.3 | 7.6 | 8 | 4 | 8.5 | 8.5 | 3.5 | 12.2 |
| | 1/8 | **KQ2U07-34□P** | 12.7 | 11.1 | 37.3 | 11.1 | 31.9 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 11.7 |
| | 1/4 | **KQ2U07-35□P** | 17.46 | 11.1 | 41 | 11.1 | 32.9 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 21.6 |
| | 3/8 | **KQ2U07-36□P** | 22 | 11.1 | 40.5 | 11.1 | 32.4 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 30.6 |
| ø5/16 | 1/8 | **KQ2U09-34□P** | 14.29 | 13.2 | 40.2 | 13.2 | 34.8 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 16.3 |
| | 1/4 | **KQ2U09-35□P** | 17.46 | 13.2 | 43.9 | 13.2 | 35.8 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 22.6 |
| | 3/8 | **KQ2U09-36□P** | 22 | 13.2 | 43.4 | 13.2 | 35.3 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 31.5 |
| ø3/8 | 1/4 | **KQ2U11-35□P** | 17.46 | 15.4 | 47.4 | 15.4 | 39.3 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 23.8 |
| | 3/8 | **KQ2U11-36□P** | 22 | 15.4 | 46.9 | 15.4 | 38.8 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 32.9 |
| | 1/2 | **KQ2U11-37□P** | 28.57 | 15.4 | 48.7 | 15.4 | 38.3 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 53.2 |
| ø1/2 | 1/4 | **KQ2U13-35□P** | 22 | 19.3 | 52.2 | 19.3 | 44.1 | 17 | 11.8 | 8 | 4.2 | 57.3 | 50.6 | 9 | 41.4 |
| | 3/8 | **KQ2U13-36□P** | 22 | 19.3 | 51.7 | 19.3 | 43.6 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 11 | 39 |
| | 1/2 | **KQ2U13-37□P** | 28.57 | 19.3 | 53.5 | 19.3 | 43.1 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 12.1 | 54.8 |

□: A (Brass), N (Brass + Electroless nickel plating)  ∗1 øD is maximum diameter.



# Inch Size One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: R

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

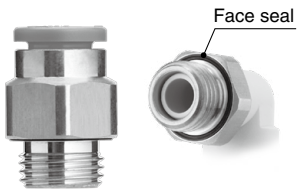
**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

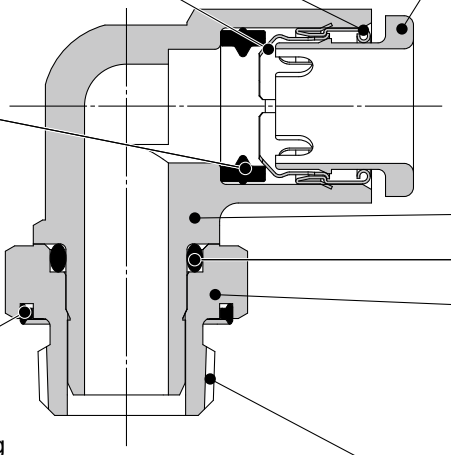
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Face seal method**

**Seal ring**

Piping installability is improved by changing to the face seal structure.



**Release button**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

**O-ring**

**Stud**

**Effective when piping in a confined space.**

Body part rotates allowing for positioning.

**Connection thread**

R

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

**Drastically reduces screw-in time with the face seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2" |

## Specifications

| | | |
|---|---|---|
| **Fluid** | | Air, Water*1 |
| **Operating pressure range***2 | | –100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | | 3 MPa |
| **Ambient and fluid temperature** | | –5 to 60°C, Water: 0 to 40°C (No freezing) |
| **Thread** | **Mounting section** | JIS B0203 (Taper thread for piping)<br>JIS B0205 (Metric coarse thread) |
| | **Nut section** | JIS B0205 (Metric fine thread) |
| **Sealant on the threads** | | Seal ring |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring, Seal ring | NBR |

## How to Order

**Threaded Type** **KQ2 H 05 – 01 A P**

**One-touch fittings**

**Model**

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

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

**Port size**

| Symbol | Size |
|---|---|
| **01** | R1/8 |
| **02** | R1/4 |
| **03** | R3/8 |
| **04** | R1/2 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Face seal**

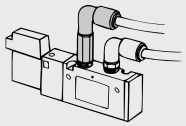
**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

## Round Type Variations

**Extended male elbow**
**KQ2W** P.198



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**
**KQ2H** P.198



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**
**KQ2L** P.198



Use to pipe a female thread at right angles. Most general model.

**Male branch tee**
**KQ2T** P.199



Use to branch a female thread at both 90° angles.

**Male run tee**
**KQ2Y** P.199



Use to branch a female thread in the same direction and at a 90° angle.

**Branch "Y"**
**KQ2U** P.199



Use to branch a female thread in the same direction.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | **Refer to page 135 and after for details.** |

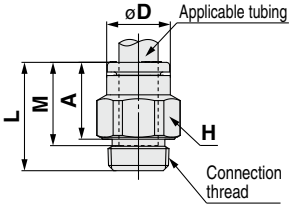
## Dimensions

### Male Connector: KQ2H (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | øD | L | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2H01-01□P** | 12 | 6.7 | 14.1 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 6.3 |
| | 1/4 | **KQ2H01-02□P** | 17 | 6.7 | 15 | 7.4 | 13.3 | 3.4 | 2.9 | 2.5 | 15.1 |
| ø3/16 | 1/8 | **KQ2H05-01□P** | 12 | 8.3 | 16.7 | 11.5 | 13.3 | 7.8 | 6.5 | 3.5 | 6.8 |
| | 1/4 | **KQ2H05-02□P** | 17 | 8.3 | 15 | 7.4 | 13.3 | 7.8 | 6.5 | 3.5 | 13.9 |
| ø1/4 | 1/8 | **KQ2H07-01□P** | 12 | 10.9 | 19.4 | 14.2 | 13.3 | 13.5 | 11.5 | 4.6 | 8.2 |
| | 1/4 | **KQ2H07-02□P** | 17 | 10.9 | 15 | 7.4 | 13.3 | 13.5 | 11.5 | 4.6 | 12.2 |
| | 3/8 | **KQ2H07-03□P** | 21 | 10.9 | 14.5 | 6.9 | 13.3 | 13.5 | 11.5 | 4.6 | 20.4 |
| ø5/16 | 1/8 | **KQ2H09-01□P** | 14 | 13 | 21.1 | 15.9 | 14.2 | 26.1 | 18 | 6 | 11.8 |
| | 1/4 | **KQ2H09-02□P** | 17 | 13 | 19.9 | 12.3 | 14.2 | 26.1 | 18 | 6 | 13.9 |
| | 3/8 | **KQ2H09-03□P** | 21 | 13 | 15.2 | 7.6 | 14.2 | 26.1 | 18 | 6 | 19.6 |
| ø3/8 | 1/4 | **KQ2H11-02□P** | 17 | 15.1 | 23.9 | 16.3 | 15.6 | 35.3 | 29.1 | 7 | 18 |
| | 3/8 | **KQ2H11-03□P** | 21 | 15.1 | 21.2 | 13.6 | 15.6 | 35.3 | 29.1 | 7 | 24.3 |
| | 1/2 | **KQ2H11-04□P** | 27 | 15.1 | 18.8 | 8.4 | 15.6 | 35.3 | 29.1 | 7 | 42 |
| ø1/2 | 1/4 | **KQ2H13-02□P** | 19 | 19 | 26.8 | 19.2 | 17 | 58.5 | 51.7 | 9 | 21.3 |
| | 3/8 | **KQ2H13-03□P** | 21 | 19 | 25.6 | 18 | 17 | 66.0 | 51.7 | 9.6 | 28.9 |
| | 1/2 | **KQ2H13-04□P** | 27 | 19 | 26.5 | 16.1 | 17 | 66.0 | 51.7 | 9.6 | 50.9 |

□: A (Brass), N (Brass + Electroless nickel plating)



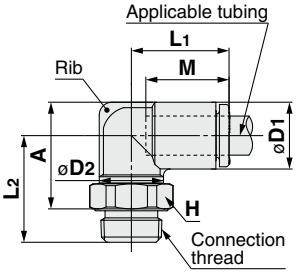

### Male Elbow: KQ2L (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2L05-01□P** | 12 | 9.1 | 10 | 15 | 16.0 | 15.3 | 13.3 | 6.8 | 5.6 | 3.5 | 5.4 | — |
| | 1/4 | **KQ2L05-02□P** | 17 | 9.1 | 10 | 15 | 20.4 | 17.3 | 13.3 | 6.8 | 5.6 | 3.5 | 14.7 | — |
| ø1/4 | 1/8 | **KQ2L07-01□P** | 12 | 11.1 | 10 | 15.6 | 17.0 | 17.3 | 13.3 | 11.3 | 10 | 4.5 | 5.8 | ● |
| | 1/4 | **KQ2L07-02□P** | 17 | 11.1 | 10 | 15.6 | 21.4 | 19.3 | 13.3 | 11.3 | 10 | 4.5 | 15 | ● |
| | 3/8 | **KQ2L07-03□P** | 21 | 11.1 | 10 | 15.6 | 23.4 | 21.3 | 13.3 | 11.3 | 10 | 4.5 | 30.3 | ● |
| ø5/16 | 1/8 | **KQ2L09-01□P** | 12 | 13.2 | 10 | 16.4 | 18.0 | 19.4 | 14.2 | 11.4 | 11.4 | 4.5 | 6.5 | ● |
| | 1/4 | **KQ2L09-02□P** | 17 | 13.2 | 12 | 17.2 | 22.4 | 21.4 | 14.2 | 21.6 | 14.9 | 6 | 13.7 | ● |
| | 3/8 | **KQ2L09-03□P** | 21 | 13.2 | 12 | 17.2 | 24.4 | 23.4 | 14.2 | 21.6 | 14.9 | 6 | 28.7 | ● |
| ø3/8 | 1/4 | **KQ2L11-02□P** | 17 | 15.4 | 17 | 19.3 | 25.5 | 25.5 | 15.6 | 28.8 | 23.8 | 7.5 | 17.7 | ● |
| | 3/8 | **KQ2L11-03□P** | 21 | 15.4 | 17 | 19.3 | 25.6 | 25.6 | 15.6 | 28.8 | 23.8 | 7.5 | 17.6 | ● |
| | 1/2 | **KQ2L11-04□P** | 27 | 15.4 | 17 | 19.3 | 30.4 | 27.6 | 15.6 | 28.8 | 23.8 | 7.5 | 44.8 | ● |
| ø1/2 | 1/4 | **KQ2L13-02□P** | 17 | 19.3 | 17 | 21.5 | 27.4 | 29.4 | 17 | 50.3 | 44.4 | 9 | 20 | — |
| | 3/8 | **KQ2L13-03□P** | 21 | 19.3 | 17 | 21.8 | 27.7 | 29.7 | 17 | 56.7 | 44.4 | 9.5 | 32.6 | — |
| | 1/2 | **KQ2L13-04□P** | 27 | 19.3 | 17 | 21.8 | 32.3 | 31.5 | 17 | 56.7 | 44.4 | 9.5 | 64.5 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



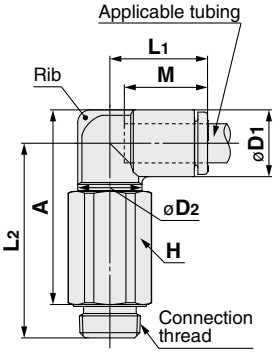

### Extended Male Elbow: KQ2W (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | **KQ2W05-01□P** | 12 | 9.1 | 10 | 15 | 29.7 | 29 | 13.3 | 6.8 | 5.6 | 3.5 | 15.7 | — |
| | 1/4 | **KQ2W05-02□P** | 17 | 9.1 | 10 | 15 | 32 | 29 | 13.3 | 6.8 | 5.6 | 3.5 | 35.1 | — |
| ø1/4 | 1/8 | **KQ2W07-01□P** | 12 | 11.1 | 10 | 15.6 | 30.7 | 31 | 13.3 | 11.6 | 10.0 | 4.5 | 16 | ● |
| | 1/4 | **KQ2W07-02□P** | 17 | 11.1 | 10 | 15.6 | 33 | 31 | 13.3 | 11.6 | 10.0 | 4.5 | 35.4 | ● |
| | 3/8 | **KQ2W07-03□P** | 21 | 11.1 | 10 | 15.6 | 35 | 33 | 13.3 | 11.6 | 10.0 | 4.5 | 62.8 | ● |
| ø5/16 | 1/8 | **KQ2W09-01□P** | 12 | 13.2 | 10 | 16.4 | 31.7 | 33.1 | 14.2 | 11.6 | 11.6 | 4.5 | 16.7 | ● |
| | 1/4 | **KQ2W09-02□P** | 17 | 13.2 | 12 | 17.2 | 36.1 | 35.1 | 14.2 | 21.5 | 14.9 | 6 | 35.4 | ● |
| | 3/8 | **KQ2W09-03□P** | 21 | 13.2 | 12 | 17.2 | 38.1 | 37.1 | 14.2 | 21.5 | 14.9 | 6 | 64.7 | ● |
| ø3/8 | 1/4 | **KQ2W11-02□P** | 17 | 15.4 | 17 | 19.3 | 49.9 | 50 | 15.6 | 28.8 | 23.8 | 7 | 54.1 | ● |
| | 3/8 | **KQ2W11-03□P** | 21 | 15.4 | 17 | 19.3 | 44.5 | 44.6 | 15.6 | 28.8 | 23.8 | 7 | 57.5 | ● |
| | 1/2 | **KQ2W11-04□P** | 27 | 15.4 | 17 | 19.3 | 49.3 | 46.6 | 15.6 | 28.8 | 23.8 | 7 | 122.5 | ● |
| ø1/2 | 1/4 | **KQ2W13-02□P** | 17 | 19.3 | 17 | 21.5 | 51.8 | 53.9 | 17 | 56.7 | 44.4 | 9 | 56.4 | — |
| | 3/8 | **KQ2W13-03□P** | 21 | 19.3 | 17 | 21.8 | 47.4 | 49.5 | 17 | 56.7 | 44.4 | 9.5 | 81.6 | — |
| | 1/2 | **KQ2W13-04□P** | 27 | 19.3 | 17 | 21.8 | 52 | 51.3 | 17 | 56.7 | 44.4 | 9.5 | 143.9 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 ø$D_1$ is maximum diameter.



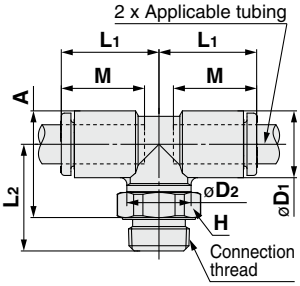
## Dimensions

### Male Branch Tee: KQ2T (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2T05-01□P | 12 | 9.1 | 10 | 15 | 16 | 15.3 | 13.3 | 8.4 | 7.0 | 3.5 | 6.2 |
| | 1/4 | KQ2T05-02□P | 17 | 9.1 | 10 | 15 | 20.4 | 17.3 | 13.3 | 8.4 | 7.0 | 3.5 | 15.5 |
| ø1/4 | 1/8 | KQ2T07-01□P | 12 | 11.1 | 10 | 15.6 | 17 | 17.3 | 13.3 | 14.4 | 12.4 | 4.5 | 6.9 |
| | 1/4 | KQ2T07-02□P | 17 | 11.1 | 10 | 15.6 | 21.4 | 19.3 | 13.3 | 14.4 | 12.4 | 4.5 | 16.2 |
| | 3/8 | KQ2T07-03□P | 21 | 11.1 | 10 | 15.6 | 23.4 | 21.3 | 13.3 | 14.4 | 12.4 | 4.5 | 31.5 |
| ø5/16 | 1/8 | KQ2T09-01□P | 12 | 13.2 | 10 | 16.4 | 18 | 19.4 | 14.2 | 14.4 | 14.4 | 4.5 | 8.3 |
| | 1/4 | KQ2T09-02□P | 17 | 13.2 | 12 | 17.2 | 22.4 | 21.4 | 14.2 | 26.3 | 18.2 | 6 | 15.5 |
| | 3/8 | KQ2T09-03□P | 21 | 13.2 | 12 | 17.2 | 24.4 | 23.4 | 14.2 | 26.3 | 18.2 | 6 | 30.4 |
| ø3/8 | 1/4 | KQ2T11-02□P | 17 | 15.4 | 17 | 19.3 | 25.4 | 25.5 | 15.6 | 28.8 | 23.8 | 7.5 | 20.1 |
| | 3/8 | KQ2T11-03□P | 21 | 15.4 | 17 | 19.3 | 25.5 | 25.6 | 15.6 | 28.8 | 23.8 | 7.5 | 20 |
| | 1/2 | KQ2T11-04□P | 27 | 15.4 | 17 | 19.3 | 30.3 | 27.6 | 15.6 | 28.8 | 23.8 | 7.5 | 47.3 |
| ø1/2 | 1/4 | KQ2T13-02□P | 17 | 19.3 | 17 | 21.5 | 27.3 | 29.4 | 17 | 57.3 | 50.6 | 9 | 24.1 |
| | 3/8 | KQ2T13-03□P | 21 | 19.3 | 17 | 21.8 | 27.6 | 29.7 | 17 | 63.8 | 50.6 | 9.5 | 36.7 |
| | 1/2 | KQ2T13-04□P | 27 | 19.3 | 17 | 21.8 | 32.2 | 31.5 | 17 | 63.8 | 50.6 | 9.5 | 68.7 |

□: A (Brass), N (Brass + Electroless nickel plating) ∗1 øD1 is maximum diameter.

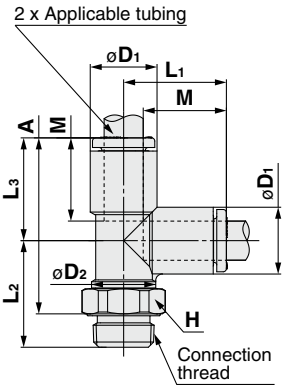



### Male Run Tee: KQ2Y (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ∗1 øD1 | øD2 | L1 | L2 | L3 | A | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2Y05-01□P | 12 | 9.1 | 10 | 15.7 | 16 | 15.7 | 26.5 | 13.3 | 8.4 | 7.0 | 3.5 | 6.3 |
| | 1/4 | KQ2Y05-02□P | 17 | 9.1 | 10 | 15.7 | 20.4 | 15.7 | 28.5 | 13.3 | 8.4 | 7.0 | 3.5 | 15.6 |
| ø1/4 | 1/8 | KQ2Y07-01□P | 12 | 11.1 | 10 | 16.5 | 17 | 16.5 | 28.3 | 13.3 | 14.0 | 12.4 | 4.5 | 6.9 |
| | 1/4 | KQ2Y07-02□P | 17 | 11.1 | 10 | 16.5 | 21.4 | 16.5 | 30.3 | 13.3 | 14.0 | 12.4 | 4.5 | 16.2 |
| | 3/8 | KQ2Y07-03□P | 21 | 11.1 | 10 | 16.5 | 23.4 | 16.5 | 32.3 | 13.3 | 14.0 | 12.4 | 4.5 | 31.5 |
| ø5/16 | 1/8 | KQ2Y09-01□P | 12 | 13.2 | 10 | 18.2 | 18 | 18.2 | 31 | 14.2 | 14.0 | 14.0 | 4.5 | 8.4 |
| | 1/4 | KQ2Y09-02□P | 17 | 13.2 | 12 | 18.2 | 22.4 | 18.2 | 33 | 14.2 | 26.3 | 18.3 | 6 | 15.6 |
| | 3/8 | KQ2Y09-03□P | 21 | 13.2 | 12 | 18.2 | 24.4 | 18.2 | 35 | 14.2 | 26.3 | 18.3 | 6 | 30.5 |
| ø3/8 | 1/4 | KQ2Y11-02□P | 17 | 15.4 | 17 | 20.4 | 25.4 | 20.4 | 38.2 | 15.6 | 28.8 | 23.8 | 7.5 | 20.2 |
| | 3/8 | KQ2Y11-03□P | 21 | 15.4 | 17 | 20.4 | 25.5 | 20.4 | 38.3 | 15.6 | 28.8 | 23.8 | 7.5 | 20.1 |
| | 1/2 | KQ2Y11-04□P | 27 | 15.4 | 17 | 20.4 | 30.3 | 20.4 | 40.3 | 15.6 | 28.8 | 23.8 | 7.5 | 47.4 |
| ø1/2 | 1/4 | KQ2Y13-02□P | 17 | 19.3 | 17 | 23.4 | 27.3 | 23.4 | 43.1 | 17 | 57.3 | 50.6 | 9 | 24.4 |
| | 3/8 | KQ2Y13-03□P | 21 | 19.3 | 17 | 23.4 | 27.6 | 23.4 | 43.4 | 17 | 64.6 | 50.6 | 9.5 | 37 |
| | 1/2 | KQ2Y13-04□P | 27 | 19.3 | 17 | 23.4 | 32.2 | 23.4 | 45.2 | 17 | 64.6 | 50.6 | 9.5 | 68.9 |

□: A (Brass), N (Brass + Electroless nickel plating) ∗1 øD1 is maximum diameter.

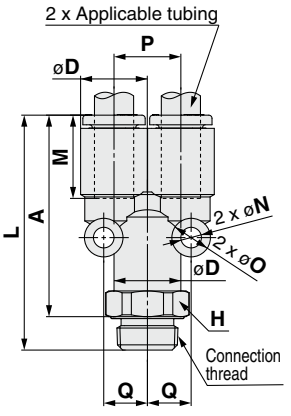



### Branch "Y": KQ2U (Face seal)



| Applicable tubing O.D. [inch] | Connection thread R | Model | H (Width across flats) | ∗1 øD | L | P | A | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø3/16 | 1/8 | KQ2U05-01□P | 12 | 9.1 | 36.4 | 9.1 | 31.2 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7.0 | 4.1 | 9.8 |
| | 1/4 | KQ2U05-02□P | 17 | 9.1 | 39.8 | 9.1 | 32.2 | 13.3 | 6.2 | 6 | 3.2 | 8.4 | 7.0 | 4.1 | 19.6 |
| ø1/4 | 1/8 | KQ2U07-01□P | 14 | 11.1 | 37.1 | 11.1 | 31.9 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 12.3 |
| | 1/4 | KQ2U07-02□P | 17 | 11.1 | 40.5 | 11.1 | 32.9 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 20.4 |
| | 3/8 | KQ2U07-03□P | 21 | 11.1 | 40 | 11.1 | 32.4 | 13.3 | 7.6 | 8 | 4 | 14.4 | 12.4 | 5.6 | 28.7 |
| ø5/16 | 1/8 | KQ2U09-01□P | 14 | 13.2 | 40 | 13.2 | 34.8 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 6 | 15.8 |
| | 1/4 | KQ2U09-02□P | 17 | 13.2 | 43.4 | 13.2 | 35.8 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 7.3 | 21.4 |
| | 3/8 | KQ2U09-03□P | 21 | 13.2 | 42.9 | 13.2 | 35.3 | 14.2 | 8.7 | 8 | 4.2 | 26.3 | 18.3 | 7.3 | 29.8 |
| ø3/8 | 1/4 | KQ2U11-02□P | 17 | 15.4 | 46.9 | 15.4 | 39.3 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 22.8 |
| | 3/8 | KQ2U11-03□P | 21 | 15.4 | 46.4 | 15.4 | 38.8 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 31.3 |
| | 1/2 | KQ2U11-04□P | 27 | 15.4 | 48.7 | 15.4 | 38.3 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 49.6 |
| ø1/2 | 1/4 | KQ2U13-02□P | 21 | 19.3 | 51.2 | 19.3 | 43.6 | 17 | 11.8 | 8 | 4.2 | 57.3 | 50.6 | 9 | 38.8 |
| | 3/8 | KQ2U13-03□P | 21 | 19.3 | 51.2 | 19.3 | 43.6 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 11 | 37.6 |
| | 1/2 | KQ2U13-04□P | 27 | 19.3 | 53.5 | 19.3 | 43.1 | 17 | 11.8 | 8 | 4.2 | 64.6 | 50.6 | 12.1 | 51.3 |

□: A (Brass), N (Brass + Electroless nickel plating) ∗1 øD is maximum diameter.



# Metric Size Uni One-touch Fittings

## Applicable Tubing: Metric Size, Connection Thread: Rc, G, NPT, NPTF

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

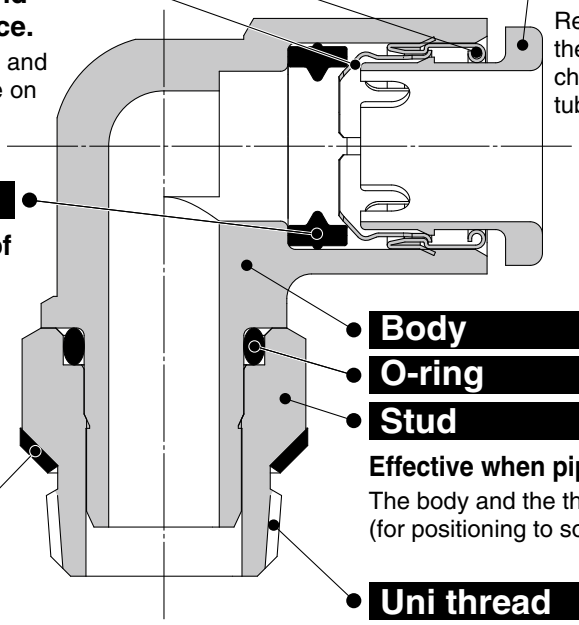
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Gasket**

**Release button (Light gray)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.



**Body**

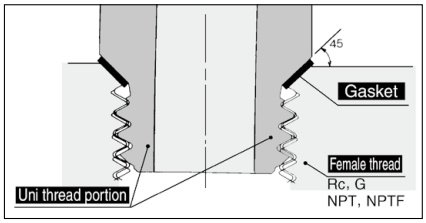
**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**Uni thread**




**Uni thread ridge shape**

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

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

**Drastically cuts piping work-hours with the gasket seal method.**



## Applicable Tubing

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

## Specifications

| | |
|---|---|
| **Fluid** | Air, Water*1 |
| **Operating pressure range***2 | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | 3 MPa |
| **Ambient and fluid temperature** | −5 to 60°C, Water: 0 to 40°C (No freezing) |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

Made to Order

**Made to Order**

**(Refer to page 207 for details.)**

## How to Order

### Threaded Type

**KQ2 H 06 – U01 A**

**One-touch fittings**

**Model**

| Symbol | Model |
|---|---|
| **H** | Male connector |
| **S** | Hexagon socket head male connector |
| **L** | Male elbow |
| **K** | 45° male elbow |
| **V** | Universal male elbow |
| **T** | Male branch tee |
| **W** | Extended male elbow |
| **Y** | Male run tee |
| **U** | Branch "Y" |

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **04** | ø4 |
| **06** | ø6 |
| **08** | ø8 |
| **10** | ø10 |
| **12** | ø12 |
| **16** | ø16 |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Port size**

| Symbol | | Size |
|---|---|---|
| Thread connection | **U01** | Uni1/8 |
| | **U02** | Uni1/4 |
| | **U03** | Uni3/8 |
| | **U04** | Uni1/2 |

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Spare Parts

**How to Order Gasket**

**KQG – U01**

**Gasket for Uni One-touch fittings**

**Applicable port size**

| Symbol | Size |
|---|---|
| **U01** | Uni1/8 |
| **U02** | Uni1/4 |
| **U03** | Uni3/8 |
| **U04** | Uni1/2 |

## Round Type Variations

**Hexagon socket head male connector**

**KQ2S** P.204



Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.

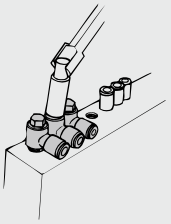


**Universal male elbow**

**KQ2V** P.205



Hexagon head of the body allows tightening with a box wrench in confined spaces.

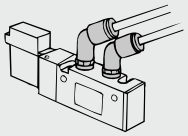


**45° male elbow**

**KQ2K** P.205



Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.

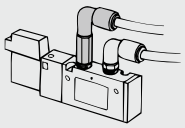


**Extended male elbow**

**KQ2W** P.205



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



**Male connector**

**KQ2H** P.204



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**

**KQ2L** P.204



Use to pipe a female thread at right angles. Most general model.

**Male branch tee**

**KQ2T** P.206



Use to branch a female thread at both 90° angles.

**Branch "Y"**

**KQ2U** P.206



Use to branch a female thread in the same direction.

**Male run tee**

**KQ2Y** P.206



Use to branch a female thread in the same direction and at a 90° angle.

| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | Refer to page 103 and after for details. |

# Dimensions

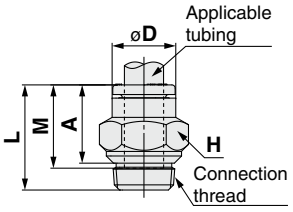
## Male Connector: KQ2H (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | øD | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2H04-U01□ | 10 | 7.7 | 15.9 | 11.1 | 13.3 | 4.8 | 3.4 | 3 | 6.6 |
| | 1/4 | KQ2H04-U02□ | 14 | 7.7 | 15.3 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 12.7 |
| ø6 | 1/8 | KQ2H06-U01□ | 12 | 9.7 | 16.7 | 11.9 | 13.3 | 13.1 | 10.4 | 4.5 | 6.2 |
| | 1/4 | KQ2H06-U02□ | 14 | 9.7 | 17 | 10.6 | 13.3 | 13.1 | 10.4 | 4.5 | 12.8 |
| | 3/8 | KQ2H06-U03□ | 17 | 9.7 | 14.9 | 8.5 | 13.3 | 13.1 | 10.4 | 4.5 | 18.1 |
| ø8 | 1/8 | KQ2H08-U01□ | 14 | 13 | 20.6 | 15.8 | 14.2 | 26.1 | 18 | 6 | 7 |
| | 1/4 | KQ2H08-U02□ | 14 | 13 | 18.5 | 12.1 | 14.2 | 26.1 | 18 | 6 | 10.1 |
| | 3/8 | KQ2H08-U03□ | 17 | 13 | 14.9 | 8.5 | 14.2 | 26.1 | 18 | 6 | 15 |
| ø10 | 1/8 | KQ2H10-U01□ | 17 | 15.6 | 22.4 | 17.6 | 15.6 | 26.1 | 18 | 6 | 13.9 |
| | 1/4 | KQ2H10-U02□ | 17 | 15.6 | 23.7 | 17.3 | 15.6 | 41.5 | 29.5 | 7.5 | 17.6 |
| | 3/8 | KQ2H10-U03□ | 17 | 15.6 | 19.5 | 13.1 | 15.6 | 41.5 | 29.5 | 7.5 | 15.6 |
| | 1/2 | KQ2H10-U04□ | 22 | 15.6 | 17 | 8.4 | 15.6 | 41.5 | 29.5 | 7.5 | 29.5 |
| ø12 | 1/4 | KQ2H12-U02□ | 19 | 18.2 | 24.8 | 18.4 | 17 | 58.3 | 46.1 | 9 | 13.8 |
| | 3/8 | KQ2H12-U03□ | 19 | 18.2 | 21.8 | 15.4 | 17 | 58.3 | 46.1 | 9 | 17.9 |
| | 1/2 | KQ2H12-U04□ | 22 | 18.2 | 17.7 | 9.1 | 17 | 58.3 | 46.1 | 9 | 25.4 |
| ø16 | 3/8 | KQ2H16-U03□ | 24 | 23.6 | 29.2 | 22.8 | 20.6 | 81 | 67 | 11 | 33.9 |
| | 1/2 | KQ2H16-U04□ | 24 | 23.6 | 26.8 | 18.2 | 20.6 | 113 | 67 | 13 | 31.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread




## Hexagon Socket Head Male Connector: KQ2S (Gasket seal)

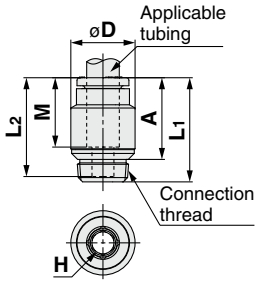


| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | *1 øD | L1 | L2 | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2S04-U01□ | 3 | 10 | 20.6 | 19.6 | 15.8 | 13.3 | 4.1 | 3.6 | 3.1 | 8 |
| ø6 | 1/8 | KQ2S06-U01□ | 4 | 12 | 19.8 | 18.8 | 15 | 13.3 | 10 | 9.9 | 4.1 | 8.2 |
| | 1/4 | KQ2S06-U02□ | 4 | 14 | 19.8 | 18.8 | 13.4 | 13.3 | 10.7 | 10 | 4.1 | 12.3 |
| ø8 | 1/8 | KQ2S08-U01□ | 5 | 14 | 20.7 | 19.7 | 15.9 | 14.2 | 17.2 | 16.2 | 5.1 | 9.4 |
| | 1/4 | KQ2S08-U02□ | 6 | 14 | 20.5 | 19.5 | 14.1 | 14.2 | 23.3 | 16.2 | 6.1 | 10.9 |
| | 3/8 | KQ2S08-U03□ | 6 | 17 | 20.7 | 19.7 | 14.3 | 14.2 | 23.3 | 16.2 | 6.1 | 19.8 |
| ø10 | 1/8 | KQ2S10-U01□ | 5 | 15.6 | 22.4 | 21.9 | 16.8 | 15.6 | 17.2 | 16.2 | 5.1 | 10.5 |
| | 1/4 | KQ2S10-U02□ | 8 | 17 | 23.7 | 20.1 | 17.3 | 15.6 | 39 | 26.6 | 8.1 | 15.4 |
| | 3/8 | KQ2S10-U03□ | 8 | 17 | 21.1 | 20.1 | 14.7 | 15.6 | 39 | 26.6 | 8.1 | 16.4 |
| | 1/2 | KQ2S10-U04□ | 8 | 21 | 21.1 | 20.1 | 12.5 | 15.6 | 39 | 26.6 | 8.1 | 29.7 |
| ø12 | 1/4 | KQ2S12-U02□ | 8 | 18.2 | 27.8 | 21.5 | 21.4 | 17 | 46 | 44.5 | 8.1 | 20.7 |
| | 3/8 | KQ2S12-U03□ | 10 | 18.2 | 22.8 | 21.8 | 16.4 | 17 | 60 | 44.5 | 10.1 | 16.1 |
| | 1/2 | KQ2S12-U04□ | 10 | 21 | 22.8 | 21.8 | 14.2 | 17 | 60 | 44.5 | 10.1 | 28.1 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD is maximum diameter.

*2 Reference dimensions after installation of Uni thread




## Male Elbow: KQ2L (Gasket seal)



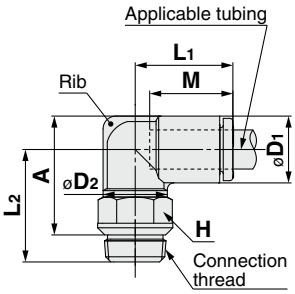
| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | *1 øD1 | øD2 | L1 | L2 | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2L04-U01□ | 10 | 8.2 | 10 | 14.8 | 16.4 | 15.7 | 13.3 | 4.6 | 3.3 | 3 | 4.8 | ● |
| | 1/4 | KQ2L04-U02□ | 14 | 8.2 | 10 | 14.8 | 19.2 | 16.9 | 13.3 | 4.6 | 3.3 | 3 | 11.5 | ● |
| ø6 | 1/8 | KQ2L06-U01□ | 10 | 10.4 | 10 | 15.5 | 17.5 | 17.9 | 13.3 | 11.4 | 9 | 4.5 | 5.3 | — |
| | 1/4 | KQ2L06-U02□ | 14 | 10.4 | 10 | 15.5 | 20.3 | 19.1 | 13.3 | 11.4 | 9 | 4.5 | 12 | — |
| | 3/8 | KQ2L06-U03□ | 17 | 10.4 | 10 | 15.5 | 21.4 | 20.2 | 13.3 | 11.4 | 9 | 4.5 | 21.4 | — |
| ø8 | 1/8 | KQ2L08-U01□ | 10 | 13.2 | 10 | 16.4 | 18.9 | 20.7 | 14.2 | 11.4 | 11.4 | 4.5 | 6.1 | ● |
| | | KQ2L08-U01□Q *3 | 12 | 13.2 | 12 | 17.2 | 22.7 | 25.0 | 14.2 | 21.6 | 14.9 | 6 | 8.6 | ● |
| | 1/4 | KQ2L08-U02□ | 14 | 13.2 | 12 | 17.2 | 21.7 | 21.9 | 14.2 | 21.6 | 14.9 | 6 | 10.9 | ● |
| | 3/8 | KQ2L08-U03□ | 17 | 13.2 | 12 | 17.2 | 22.8 | 23.0 | 14.2 | 21.6 | 14.9 | 6 | 20.2 | ● |
| ø10 | 1/8 | KQ2L10-U01□ | 14 | 15.9 | 12 | 18.6 | 21.5 | 24.6 | 15.6 | 21.6 | 14.9 | 6 | 12.3 | ● |
| | 1/4 | KQ2L10-U02□ | 17 | 15.9 | 17 | 19.3 | 24.3 | 25.8 | 15.6 | 35.2 | 25 | 7.5 | 16.9 | ● |
| | 3/8 | KQ2L10-U03□ | 17 | 15.9 | 17 | 19.3 | 26.9 | 28.4 | 15.6 | 35.2 | 25 | 7.5 | 17.9 | ● |
| | 1/2 | KQ2L10-U04□ | 22 | 15.9 | 17 | 19.3 | 34.5 | 33.8 | 15.6 | 35.2 | 25 | 7.5 | 48.2 | ● |
| ø12 | 1/4 | KQ2L12-U02□ | 17 | 18.5 | 17 | 21.5 | 25.6 | 28.4 | 17 | 50.2 | 39.7 | 9 | 18.7 | ● |
| | 3/8 | KQ2L12-U03□ | 17 | 18.5 | 17 | 21.5 | 28.2 | 31.0 | 17 | 50.2 | 39.7 | 9 | 19.8 | ● |
| | 1/2 | KQ2L12-U04□ | 22 | 18.5 | 17 | 21.5 | 35.8 | 36.4 | 17 | 50.2 | 39.7 | 9 | 50 | ● |
| ø16 | 3/8 | KQ2L16-U03□ | 22 | 23.8 | 21 | 27.1 | 32.4 | 37.9 | 20.6 | 71 | 58.9 | 11 | 37.4 | — |
| | 1/2 | KQ2L16-U04□ | 22 | 23.8 | 21 | 27.1 | 35.0 | 38.3 | 20.6 | 100 | 58.9 | 13 | 47.9 | — |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.

*2 Reference dimensions after installation of Uni thread

*3 For details, refer to page 207.



## Dimensions

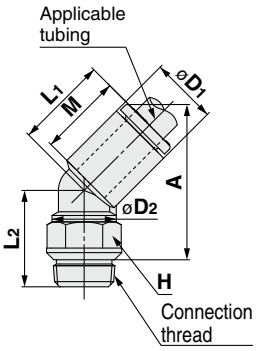
### 45° Male Elbow: KQ2K (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2K04-U01□ | 10 | 8.2 | 10 | 14.4 | 12.9 | 20.8 | 13.3 | 4.8 | 3.4 | 4.5 | 4.7 |
| | 1/4 | KQ2K04-U02□ | 14 | 8.2 | 10 | 14.4 | 14.7 | 21 | 13.3 | 4.8 | 3.4 | 4.5 | 11.3 |
| ø6 | 1/8 | KQ2K06-U01□ | 10 | 10.4 | 10 | 14.7 | 15 | 23.8 | 13.3 | 8.7 | 6.9 | 4.5 | 5.1 |
| | 1/4 | KQ2K06-U02□ | 14 | 10.4 | 10 | 14.7 | 16.8 | 24 | 13.3 | 8.7 | 6.9 | 4.5 | 11.7 |
| | 3/8 | KQ2K06-U03□ | 17 | 10.4 | 10 | 14.7 | 17.9 | 25.1 | 13.3 | 8.7 | 6.9 | 4.5 | 21.2 |
| ø8 | 1/8 | KQ2K08-U01□ | 10 | 13.2 | 10 | 16 | 15.9 | 26.5 | 14.2 | 8.7 | 8.7 | 4.5 | 6 |
| | | KQ2K08-U01□Q *3 | 12 | 13.2 | 12 | 16 | 19.7 | 30.8 | 14.2 | 19.7 | 13.6 | 6 | 8.4 |
| | 1/4 | KQ2K08-U02□ | 14 | 13.2 | 12 | 16 | 18.7 | 27.7 | 14.2 | 19.7 | 19.7 | 6 | 10.7 |
| | 3/8 | KQ2K08-U03□ | 17 | 13.2 | 12 | 16 | 19.8 | 28.8 | 14.2 | 19.7 | 19.7 | 6 | 20 |
| ø10 | 1/8 | KQ2K10-U01□ | 14 | 15.9 | 12 | 18.2 | 19.4 | 32.4 | 15.6 | 30.9 | 23.2 | 6 | 12.2 |
| | 1/4 | KQ2K10-U02□ | 17 | 15.9 | 17 | 17.6 | 24.7 | 35.7 | 15.6 | 30.9 | 23.2 | 7.5 | 17 |
| | 3/8 | KQ2K10-U03□ | 17 | 15.9 | 17 | 17.6 | 21.6 | 32.6 | 15.6 | 30.9 | 23.2 | 7.5 | 17.4 |
| | 1/2 | KQ2K10-U04□ | 22 | 15.9 | 17 | 17.6 | 29.2 | 38 | 15.6 | 30.9 | 23.2 | 7.5 | 47.7 |
| ø12 | 1/4 | KQ2K12-U02□ | 17 | 18.5 | 17 | 19.4 | 24.6 | 37.7 | 17 | 44.5 | 35.1 | 9 | 18.5 |
| | 3/8 | KQ2K12-U03□ | 17 | 18.5 | 17 | 19.4 | 21.5 | 34.6 | 17 | 44.5 | 35.1 | 9 | 18.9 |
| | 1/2 | KQ2K12-U04□ | 22 | 18.5 | 17 | 19.4 | 29.1 | 40 | 17 | 44.5 | 35.1 | 9 | 49.2 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 207.



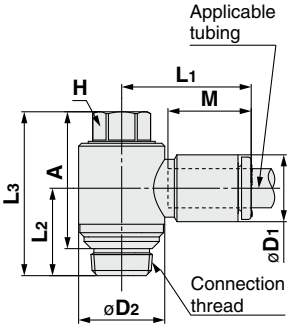

### Universal Male Elbow: KQ2V (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2V04-U01□ | 8 | 8.2 | 13.4 | 19.3 | 13.6 | 25.5 | 20.7 | 13.3 | 2.9 | 2.9 | 4.5 | 13.5 |
| ø6 | 1/8 | KQ2V06-U01□ | 8 | 10.4 | 13.4 | 20.5 | 13.6 | 25.5 | 20.7 | 13.3 | 7.5 | 5.9 | 4.5 | 13.9 |
| | 1/4 | KQ2V06-U02□ | 10 | 10.4 | 15.3 | 19.9 | 15.4 | 28 | 21.6 | 13.3 | 7.5 | 5.9 | 4.5 | 21.8 |
| ø8 | 1/8 | KQ2V08-U01□ | 12 | 13.2 | 17.6 | 23.5 | 15 | 27.5 | 22.7 | 14.2 | 16 | 11.2 | 6 | 23.7 |
| | 1/4 | KQ2V08-U02□ | 12 | 13.2 | 17.6 | 23.5 | 17 | 29.5 | 23.1 | 14.2 | 16 | 11.2 | 6 | 28 |
| | 3/8 | KQ2V08-U03□ | 14 | 13.2 | 20.6 | 23.1 | 18.2 | 34 | 27.6 | 14.2 | 20.5 | 14.3 | 7.5 | 43.1 |
| ø10 | 1/4 | KQ2V10-U02□ | 14 | 15.9 | 20.6 | 25.9 | 19 | 34 | 27.6 | 15.6 | 27 | 20.3 | 7.5 | 38.9 |
| | 3/8 | KQ2V10-U03□ | 14 | 15.9 | 20.6 | 25.9 | 19 | 34 | 27.6 | 15.6 | 27 | 20.3 | 7.5 | 44.4 |
| ø12 | 3/8 | KQ2V12-U03□ | 17 | 18.5 | 25.2 | 28.5 | 20.2 | 36.4 | 30 | 17 | 39 | 30.8 | 9 | 60.5 |
| | 1/2 | KQ2V12-U04□ | 17 | 18.5 | 25.2 | 28.5 | 22.9 | 39.1 | 30.5 | 17 | 39 | 30.8 | 9 | 74.5 |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread



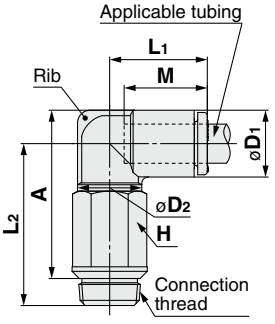

### Extended Male Elbow: KQ2W (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2W04-U01□ | 10 | 8.2 | 10 | 14.8 | 24.1 | 23.4 | 13.3 | 4 | 4 | 3 | 8.3 | ● |
| | 1/4 | KQ2W04-U02□ | 14 | 8.2 | 10 | 14.8 | 30.1 | 27.8 | 13.3 | 4 | 4 | 3 | 23.9 | ● |
| ø6 | 1/8 | KQ2W06-U01□ | 10 | 10.4 | 10 | 15.5 | 31.2 | 31.6 | 13.3 | 10.9 | 8.6 | 4.5 | 11.5 | — |
| | 1/4 | KQ2W06-U02□ | 14 | 10.4 | 10 | 15.5 | 31.2 | 30 | 13.3 | 10.9 | 8.6 | 4.5 | 24.3 | — |
| | 3/8 | KQ2W06-U03□ | 17 | 10.4 | 10 | 15.5 | 32.3 | 31.1 | 13.3 | 10.9 | 8.6 | 4.5 | 41 | — |
| ø8 | 1/8 | KQ2W08-U01□ | 10 | 13.2 | 10 | 16.4 | 32.6 | 34.4 | 14.2 | 10.9 | 10.9 | 4.5 | 12.3 | ● |
| | | KQ2W08-U01□Q *3 | 12 | 13.2 | 12 | 17.2 | 43.6 | 45.4 | 14.2 | 20.5 | 14.2 | 6 | 24.7 | ● |
| | 1/4 | KQ2W08-U02□ | 14 | 13.2 | 12 | 17.2 | 35.4 | 35.6 | 14.2 | 20.5 | 14.2 | 6 | 24.1 | ● |
| | 3/8 | KQ2W08-U03□ | 17 | 13.2 | 12 | 17.2 | 36.5 | 36.7 | 14.2 | 20.5 | 14.2 | 6 | 42.5 | ● |
| ø10 | 1/4 | KQ2W10-U02□ | 17 | 15.9 | 17 | 19.3 | 48.5 | 50.1 | 15.6 | 33.5 | 23.8 | 7.5 | 54.2 | ● |
| | 3/8 | KQ2W10-U03□ | 17 | 15.9 | 17 | 19.3 | 45.8 | 47.4 | 15.6 | 33.5 | 23.8 | 7.5 | 47 | ● |
| | 1/2 | KQ2W10-U04□ | 22 | 15.9 | 17 | 19.3 | 53.4 | 52.8 | 15.6 | 33.5 | 23.8 | 7.5 | 95.5 | ● |
| ø12 | 1/4 | KQ2W12-U02□ | 17 | 18.5 | 17 | 21.5 | 49.8 | 52.7 | 17 | 47.7 | 37.7 | 9 | 55.9 | ● |
| | 3/8 | KQ2W12-U03□ | 17 | 18.5 | 17 | 21.5 | 47.1 | 50 | 17 | 47.7 | 37.7 | 9 | 48.9 | ● |
| | 1/2 | KQ2W12-U04□ | 22 | 18.5 | 17 | 21.5 | 54.7 | 55.4 | 17 | 47.7 | 37.7 | 9 | 97.4 | ● |

□: A (Brass), N (Brass + Electroless nickel plating)

*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 207.

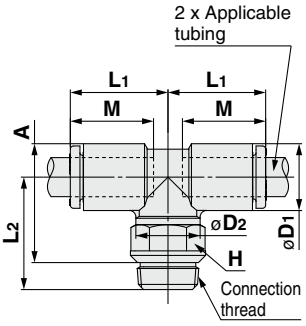


## Dimensions

### Male Branch Tee: KQ2T (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2T04-U01□ | 10 | 8.2 | 10 | 14.8 | 16.4 | 15.7 | 13.3 | 6 | 4.1 | 3 | 5.5 |
| | 1/4 | KQ2T04-U02□ | 14 | 8.2 | 10 | 14.8 | 19.2 | 16.9 | 13.3 | 6 | 4.1 | 3 | 12.2 |
| ø6 | 1/8 | KQ2T06-U01□ | 10 | 10.4 | 10 | 15.5 | 17.5 | 17.9 | 13.3 | 13.9 | 11 | 4.5 | 6.2 |
| | 1/4 | KQ2T06-U02□ | 14 | 10.4 | 10 | 15.5 | 20.3 | 19.1 | 13.3 | 13.9 | 11 | 4.5 | 12.9 |
| | 3/8 | KQ2T06-U03□ | 17 | 10.4 | 10 | 15.5 | 21.4 | 20.2 | 13.3 | 13.9 | 11 | 4.5 | 22.3 |
| ø8 | 1/8 | KQ2T08-U01□ | 10 | 13.2 | 10 | 16.4 | 18.9 | 20.7 | 14.2 | 13.9 | 13.9 | 4.5 | 7.9 |
| | | KQ2T08-U01□Q *3 | 12 | 13.2 | 12 | 17.2 | 22.7 | 25 | 14.2 | 26.3 | 18.2 | 6 | 10.3 |
| | 1/4 | KQ2T08-U02□ | 14 | 13.2 | 12 | 17.2 | 21.7 | 21.9 | 14.2 | 26.3 | 18.2 | 6 | 12.6 |
| | 3/8 | KQ2T08-U03□ | 17 | 13.2 | 12 | 17.2 | 22.8 | 23 | 14.2 | 26.3 | 18.2 | 6 | 21.9 |
| ø10 | 1/8 | KQ2T10-U01□ | 14 | 15.9 | 12 | 18.6 | 21.4 | 24.6 | 15.6 | 21.6 | 14.9 | 6 | 15.1 |
| | 1/4 | KQ2T10-U02□ | 17 | 15.9 | 17 | 19.3 | 24.2 | 25.8 | 15.6 | 35.2 | 25 | 7.5 | 19.5 |
| | 3/8 | KQ2T10-U03□ | 17 | 15.9 | 17 | 19.3 | 26.8 | 28.4 | 15.6 | 35.2 | 25 | 7.5 | 20.5 |
| | 1/2 | KQ2T10-U04□ | 22 | 15.9 | 17 | 19.3 | 34.4 | 33.8 | 15.6 | 35.2 | 25 | 7.5 | 50.8 |
| ø12 | 1/4 | KQ2T12-U02□ | 17 | 18.5 | 17 | 21.5 | 25.5 | 28.4 | 17 | 57.2 | 45.2 | 9 | 22.5 |
| | 3/8 | KQ2T12-U03□ | 17 | 18.5 | 17 | 21.5 | 28.1 | 31 | 17 | 57.2 | 45.2 | 9 | 23.6 |
| | 1/2 | KQ2T12-U04□ | 22 | 18.5 | 17 | 21.5 | 35.7 | 36.4 | 17 | 57.2 | 45.2 | 9 | 53.9 |
| ø16 | 3/8 | KQ2T16-U03□ | 22 | 23.8 | 21 | 27.1 | 32.4 | 37.9 | 20.6 | 71 | 58.9 | 11 | 44.3 |
| | 1/2 | KQ2T16-U04□ | 22 | 23.8 | 21 | 27.1 | 35 | 38.3 | 20.6 | 100 | 58.9 | 13 | 54.8 |

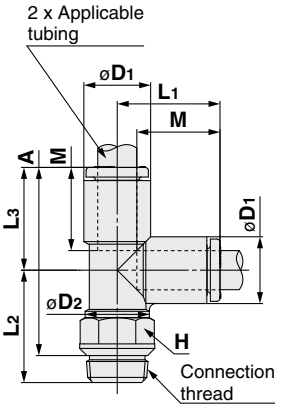



□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 207.

### Male Run Tee: KQ2Y (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2Y04-U01□ | 10 | 8.2 | 10 | 15.3 | 16.4 | 15.3 | 26.9 | 13.3 | 6.4 | 4 | 3 | 5.6 |
| | 1/4 | KQ2Y04-U02□ | 14 | 8.2 | 10 | 15.3 | 19.2 | 15.3 | 28.1 | 13.3 | 6.4 | 4 | 3 | 12.2 |
| ø6 | 1/8 | KQ2Y06-U01□ | 10 | 10.4 | 10 | 16.3 | 17.5 | 16.3 | 29 | 13.3 | 13.4 | 10.6 | 4.5 | 6.3 |
| | 1/4 | KQ2Y06-U02□ | 14 | 10.4 | 10 | 16.3 | 20.3 | 16.3 | 30.2 | 13.3 | 13.4 | 10.6 | 4.5 | 13 |
| | 3/8 | KQ2Y06-U03□ | 17 | 10.4 | 10 | 16.3 | 21.4 | 16.3 | 31.3 | 13.3 | 13.4 | 10.6 | 4.5 | 22.5 |
| ø8 | 1/8 | KQ2Y08-U01□ | 10 | 13.2 | 10 | 18.2 | 18.9 | 18.2 | 32.3 | 14.2 | 13.4 | 13.4 | 4.5 | 8 |
| | | KQ2Y08-U01□Q *3 | 12 | 13.2 | 12 | 18.2 | 22.7 | 18.2 | 36.7 | 14.2 | 25.6 | 17.7 | 6 | 10.4 |
| | 1/4 | KQ2Y08-U02□ | 14 | 13.2 | 12 | 18.2 | 21.7 | 18.2 | 33.5 | 14.2 | 25.6 | 17.7 | 6 | 12.7 |
| | 3/8 | KQ2Y08-U03□ | 17 | 13.2 | 12 | 18.2 | 22.8 | 18.2 | 34.6 | 14.2 | 25.6 | 17.7 | 6 | 22 |
| ø10 | 1/8 | KQ2Y10-U01□ | 14 | 15.9 | 12 | 20.6 | 21.4 | 20.6 | 37.3 | 15.6 | 40 | 28.4 | 6 | 15.2 |
| | 1/4 | KQ2Y10-U02□ | 17 | 15.9 | 17 | 20.6 | 24.2 | 20.6 | 38.5 | 15.6 | 40 | 28.4 | 7.5 | 19.7 |
| | 3/8 | KQ2Y10-U03□ | 17 | 15.9 | 17 | 20.6 | 26.8 | 20.6 | 41.1 | 15.6 | 40 | 28.4 | 7.5 | 20.7 |
| | 1/2 | KQ2Y10-U04□ | 22 | 15.9 | 17 | 20.6 | 34.4 | 20.6 | 46.5 | 15.6 | 40 | 28.4 | 7.5 | 50.9 |
| ø12 | 1/4 | KQ2Y12-U02□ | 17 | 18.5 | 17 | 23 | 25.5 | 23 | 42.2 | 17 | 57.4 | 45.4 | 9 | 22.8 |
| | 3/8 | KQ2Y12-U03□ | 17 | 18.5 | 17 | 23 | 28.1 | 23 | 44.8 | 17 | 57.4 | 45.4 | 9 | 23.9 |
| | 1/2 | KQ2Y12-U04□ | 22 | 18.5 | 17 | 23 | 35.7 | 23 | 50.2 | 17 | 57.4 | 45.4 | 9 | 54.2 |
| ø16 | 3/8 | KQ2Y16-U03□ | 22 | 23.8 | 21 | 28.6 | 32.4 | 28.6 | 54.6 | 20.6 | 81 | 60 | 11 | 44.9 |
| | 1/2 | KQ2Y16-U04□ | 22 | 23.8 | 21 | 28.6 | 35 | 28.6 | 55 | 20.6 | 113 | 60 | 13 | 55.4 |

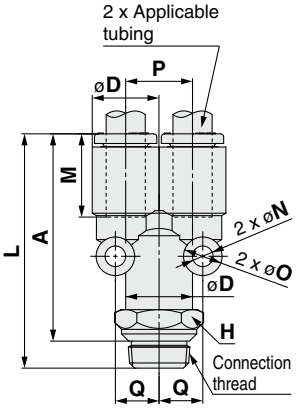



□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 207.

### Branch "Y": KQ2U (Gasket seal)



| Applicable tubing O.D. [mm] | Connection thread Uni | Model | H (Width across flats) | ø$D$ *1 | $L$ | $P$ | A*2 | $M$ | $Q$ | ø$O$ | ø$N$ | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø4 | 1/8 | KQ2U04-U01□ | 11 | 8.2 | 35.4 | 8.2 | 30.6 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 8.6 |
| | 1/4 | KQ2U04-U02□ | 14 | 8.2 | 37.4 | 8.2 | 31 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 14.6 |
| ø6 | 1/8 | KQ2U06-U01□ | 12 | 10.4 | 36.8 | 10.4 | 32 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 10 |
| | 1/4 | KQ2U06-U02□ | 14 | 10.4 | 38.5 | 10.4 | 32.1 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 15 |
| | 3/8 | KQ2U06-U03□ | 17 | 10.4 | 39.3 | 10.4 | 32.9 | 13.3 | 6.8 | 6 | 3.2 | 13.4 | 10.6 | 5.4 | 23.3 |
| ø8 | 1/8 | KQ2U08-U01□ | 14 | 13.2 | 41.6 | 13.2 | 36.8 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 17.6 |
| | 1/4 | KQ2U08-U02□ | 14 | 13.2 | 42.6 | 13.2 | 36.2 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 18.3 |
| | 3/8 | KQ2U08-U03□ | 17 | 13.2 | 42.4 | 13.2 | 36 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 25.5 |
| ø10 | 1/4 | KQ2U10-U02□ | 17 | 15.9 | 47.6 | 15.9 | 41.2 | 15.6 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9 | 25.3 |
| | 3/8 | KQ2U10-U03□ | 19 | 15.9 | 47.5 | 15.9 | 41.1 | 15.6 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 31.6 |
| | 1/2 | KQ2U10-U04□ | 22 | 15.9 | 49.4 | 15.9 | 40.8 | 15.6 | 10.1 | 8 | 4.2 | 40 | 28.4 | 9.4 | 47.6 |
| ø12 | 1/4 | KQ2U12-U02□ | 22 | 18.5 | 52.1 | 18.5 | 45.7 | 17 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 9 | 42.6 |
| | 3/8 | KQ2U12-U03□ | 22 | 18.5 | 52 | 18.5 | 45.6 | 17 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11 | 41.2 |
| | 1/2 | KQ2U12-U04□ | 22 | 18.5 | 53.4 | 18.5 | 44.8 | 17 | 11.4 | 8 | 4.2 | 57.4 | 45.4 | 11.6 | 48.8 |




□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD is maximum diameter.
*2 Reference dimensions after installation of Uni thread

# *KQ2 Series*
# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Light gray |
| **X41** | With fixed orifice∗2 |
| KQ2□08-U01□**Q** | Effective area is interchangeable with the current product (KQ series).<br>Applicable model: Male elbow<br>45° male elbow<br>Extended male elbow<br>Male branch tee<br>Male run tee<br>Applicable tubing O.D./Port size: ø8/Uni1/8<br>Thread material/Surface treatment: Brass, Brass + Electroless nickel plating<br>Example) **KQ2L08-U01AQ** |

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Male connector/KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **KQG-U01** | Uni1/8 |
| | **KQG-U02** | Uni1/4 |
| | **KQG-U03** | Uni3/8 |
| | **KQG-U04** | Uni1/2 |

## 2 Clean Series

| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

Example) **10-KQ2H06-U01N**

# Inch Size Uni One-touch Fittings

## Applicable Tubing: Inch Size, Connection Thread: Rc, G, NPT, NPTF

# KQ2 Series

**Guide**

**Chuck**

**Suitable for use with nylon and urethane. Large retaining force.**

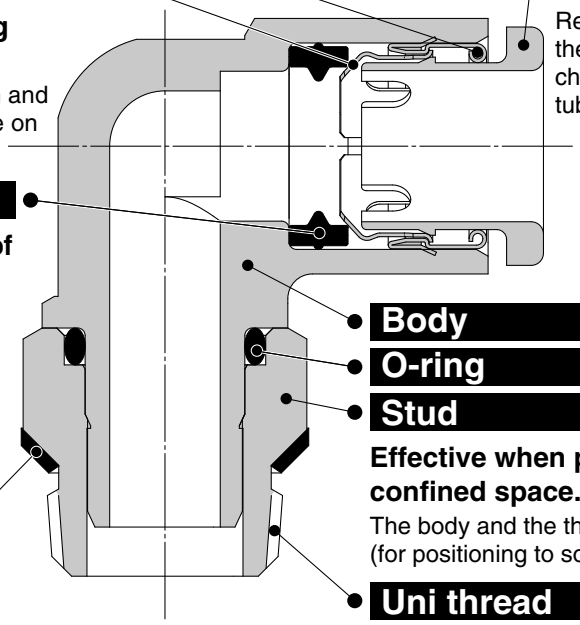
The chuck provides secure retention and the collet increases the holding force on the tube.

**Seal**

**Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.**

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

**Gasket**



**Release button (Orange)**

**Requires little force for removal.**

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

**Body**

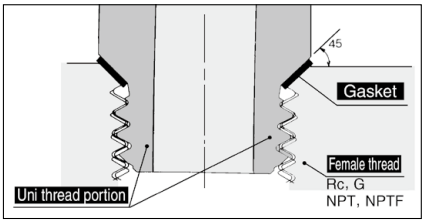
**O-ring**

**Stud**

**Effective when piping in a confined space.**

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

**Uni thread**




**Uni thread ridge shape**

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

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

**Drastically cuts piping work-hours with the gasket seal method.**



## Applicable Tubing

| | |
|---|---|
| Tubing material | FEP, PFA, Nylon, Soft nylon, Polyurethane |
| Tubing O.D. | ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2" |

## Specifications

| | |
|---|---|
| **Fluid** | Air, Water*1 |
| **Operating pressure range***2 | −100 kPa to 1 MPa |
| **Proof pressure (at 23°C)** | 3 MPa |
| **Ambient and fluid temperature** | −5 to 60°C, Water: 0 to 40°C (No freezing) |

*1 The surge pressure must be under the maximum operating pressure.

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

## Principal Parts Material

| | |
|---|---|
| Body | C3604, PBT |
| Stud | C3604 (Thread portion) |
| Chuck | Stainless steel 304 |
| Guide | Stainless steel 304 |
| Release button | POM |
| Seal, O-ring | NBR |
| Gasket | Stainless steel 304, NBR |

Made to Order

**Made to Order**

**(Refer to page 214 for details.)**

## How to Order

### Threaded Type

**KQ2 H 05 – U01 A**

**One-touch fittings**

**Model**

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

**Applicable tubing O.D.**

| Symbol | Size |
|---|---|
| **01** | ø1/8" |
| **03** | ø5/32" |
| **05** | ø3/16" |
| **07** | ø1/4" |
| **09** | ø5/16" |
| **11** | ø3/8" |
| **13** | ø1/2" |

**Thread material/Surface treatment**

| Symbol | Thread material/Surface treatment |
|---|---|
| **A** | Brass |
| **N** | Brass + Electroless nickel plating |

**Port size**

| Symbol | | Size |
|---|---|---|
| Thread connection | **U01** | Uni1/8 |
| | **U02** | Uni1/4 |
| | **U03** | Uni3/8 |
| | **U04** | Uni1/2 |

**For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.**

### Spare Parts

**How to Order Gasket**

**KQG – U01**

**Gasket for Uni One-touch fittings**

**Applicable port size**

| Symbol | Size |
|---|---|
| **U01** | Uni1/8 |
| **U02** | Uni1/4 |
| **U03** | Uni3/8 |
| **U04** | Uni1/2 |

## Round Type Variations

**Male connector**
**KQ2H** P.212



Use to pipe a female thread in the same direction. Most general model.

**Male elbow**
**KQ2L** P.212



Use to pipe a female thread at right angles. Most general model.

**Male branch tee**
**KQ2T** P.213



Use to branch a female thread at both 90° angles.

**Male run tee**
**KQ2Y** P.213



Use to branch a female thread in the same direction and at a 90° angle.

**Branch "Y"**
**KQ2U** P.213



Use to branch a female thread in the same direction.

**Extended male elbow**
**KQ2W** P.212



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.

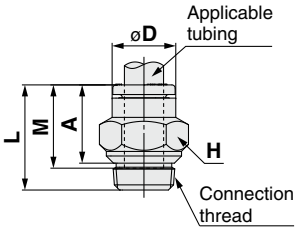
| Tubing — One-touch fittings | Tubing — Tubing | Accessory | |
|---|---|---|---|
| Plug-in reducer/Plug-in elbow etc. | Union elbow/Union tee/Straight union etc. | Nipple/Plug etc. | Refer to page 135 and after for details. |

## Dimensions

### Male Connector: KQ2H (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | øD | L | A*1 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2H01-U01□ | 11.11 | 6.7 | 15.2 | 10.4 | 13.3 | 3.4 | 2.9 | 2.5 | 7.9 |
| | 1/4 | KQ2H01-U02□ | 14.29 | 6.7 | 15.3 | 8.9 | 13.3 | 3.4 | 2.9 | 2.5 | 13.7 |
| ø5/32 | 1/8 | KQ2H03-U01□ | 11.11 | 7.7 | 15.7 | 10.9 | 13.3 | 4.8 | 3.4 | 3 | 7.7 |
| | 1/4 | KQ2H03-U02□ | 14.29 | 7.7 | 15.3 | 8.9 | 13.3 | 4.8 | 3.4 | 3 | 13 |
| ø3/16 | 1/8 | KQ2H05-U01□ | 12.7 | 8.3 | 16 | 11.2 | 13.3 | 6.8 | 5.6 | 3.5 | 7.7 |
| | 1/4 | KQ2H05-U02□ | 14.29 | 8.3 | 15.3 | 8.9 | 13.3 | 6.8 | 5.6 | 3.5 | 12.4 |
| ø1/4 | 1/8 | KQ2H07-U01□ | 12.7 | 10.9 | 18.9 | 14.1 | 13.3 | 11.6 | 10 | 4.6 | 8.7 |
| | 1/4 | KQ2H07-U02□ | 14.29 | 10.9 | 15.3 | 8.9 | 13.3 | 11.6 | 10 | 4.6 | 10.7 |
| | 3/8 | KQ2H07-U03□ | 17.46 | 10.9 | 14.9 | 8.5 | 13.3 | 11.6 | 10 | 4.6 | 18.4 |
| ø5/16 | 1/8 | KQ2H09-U01□ | 14.29 | 13 | 20.6 | 15.8 | 14.2 | 26.1 | 18 | 6 | 10.5 |
| | 1/4 | KQ2H09-U02□ | 14.29 | 13 | 18.5 | 12.1 | 14.2 | 26.1 | 18 | 6 | 10.7 |
| | 3/8 | KQ2H09-U03□ | 17.46 | 13 | 14.9 | 8.5 | 14.2 | 26.1 | 18 | 6 | 15.5 |
| ø3/8 | 1/4 | KQ2H11-U02□ | 17.46 | 15.1 | 22.2 | 15.8 | 15.6 | 28.8 | 23.8 | 7 | 16.6 |
| | 3/8 | KQ2H11-U03□ | 17.46 | 15.1 | 18.9 | 12.5 | 15.6 | 28.8 | 23.8 | 7 | 16.2 |
| | 1/2 | KQ2H11-U04□ | 22.23 | 15.1 | 17 | 8.4 | 15.6 | 28.8 | 23.8 | 7 | 30.9 |
| ø1/2 | 1/4 | KQ2H13-U02□ | 22.23 | 19 | 25.2 | 18.8 | 17 | 50.3 | 44.4 | 9 | 24.9 |
| | 3/8 | KQ2H13-U03□ | 22.23 | 19 | 23.5 | 17.1 | 17 | 56.7 | 44.4 | 9.6 | 27 |
| | 1/2 | KQ2H13-U04□ | 22.23 | 19 | 21.7 | 13.1 | 17 | 56.7 | 44.4 | 9.6 | 29.8 |

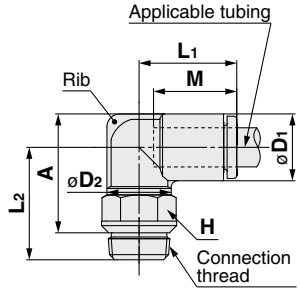



□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread

### Male Elbow: KQ2L (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$*1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2L01-U01□ | 11.11 | 7.1 | 10 | 14.5 | 17.9 | 16.7 | 13.3 | 3 | 2.5 | 2.5 | 6 | — |
| | 1/4 | KQ2L01-U02□ | 14.29 | 7.1 | 10 | 14.5 | 19.2 | 16.4 | 13.3 | 3 | 2.5 | 2.5 | 12.1 | — |
| ø5/32 | 1/8 | KQ2L03-U01□ | 11.11 | 8.2 | 10 | 14.8 | 17.4 | 16.7 | 13.3 | 4.6 | 3.3 | 3 | 6.2 | ● |
| | 1/4 | KQ2L03-U02□ | 14.29 | 8.2 | 10 | 14.8 | 19.7 | 17.4 | 13.3 | 4.6 | 3.3 | 3 | 12.3 | ● |
| ø3/16 | 1/8 | KQ2L05-U01□ | 11.11 | 9.1 | 10 | 15 | 17.9 | 17.7 | 13.3 | 6.8 | 5.6 | 3.5 | 6.4 | — |
| | 1/4 | KQ2L05-U02□ | 14.29 | 9.1 | 10 | 15 | 20.2 | 18.4 | 13.3 | 6.8 | 5.6 | 3.5 | 12.5 | — |
| ø1/4 | 1/8 | KQ2L07-U01□ | 11.11 | 11.1 | 10 | 15.6 | 18.9 | 19.7 | 13.3 | 11.3 | 10 | 4.5 | 6.7 | ● |
| | 1/4 | KQ2L07-U02□ | 14.29 | 11.1 | 10 | 15.6 | 21.2 | 20.4 | 13.3 | 11.3 | 10 | 4.5 | 12.9 | ● |
| | 3/8 | KQ2L07-U03□ | 17.46 | 11.1 | 10 | 15.6 | 22.3 | 21.5 | 13.3 | 11.3 | 10 | 4.5 | 23.1 | ● |
| ø5/16 | 1/8 | KQ2L09-U01□ | 11.11 | 13.2 | 10 | 16.4 | 19.9 | 21.7 | 14.2 | 11.4 | 11.4 | 4.5 | 7.4 | ● |
| | | KQ2L09-U01□Q*3 | 12.7 | 13.2 | 12 | 17.2 | 22.7 | 25.0 | 14.2 | 21.6 | 14.9 | 6 | 9.2 | ● |
| | 1/4 | KQ2L09-U02□ | 14.29 | 13.2 | 12 | 17.2 | 22.2 | 22.4 | 14.2 | 21.6 | 14.9 | 6 | 11.6 | ● |
| | 3/8 | KQ2L09-U03□ | 17.46 | 13.2 | 12 | 17.2 | 23.3 | 23.5 | 14.2 | 21.6 | 14.9 | 6 | 21.7 | ● |
| ø3/8 | 1/4 | KQ2L11-U02□ | 17.46 | 15.4 | 17 | 19.3 | 24.4 | 25.7 | 15.6 | 28.8 | 23.8 | 7.5 | 18 | ● |
| | 3/8 | KQ2L11-U03□ | 17.46 | 15.4 | 17 | 19.3 | 27.0 | 28.3 | 15.6 | 28.8 | 23.8 | 7.5 | 18.7 | ● |
| | 1/2 | KQ2L11-U04□ | 22.23 | 15.4 | 17 | 19.3 | 34.8 | 33.9 | 15.6 | 28.8 | 23.8 | 7.5 | 50 | ● |
| ø1/2 | 1/4 | KQ2L13-U02□ | 17.46 | 19.3 | 17 | 21.5 | 26.3 | 29.5 | 17 | 50.3 | 44.4 | 9 | 20.3 | — |
| | 3/8 | KQ2L13-U03□ | 17.46 | 19.3 | 17 | 21.8 | 28.9 | 32.1 | 17 | 56 | 44.4 | 9.5 | 25.1 | — |
| | 1/2 | KQ2L13-U04□ | 22.23 | 19.3 | 17 | 21.8 | 31.9 | 32.9 | 17 | 56 | 44.4 | 9.5 | 56 | — |

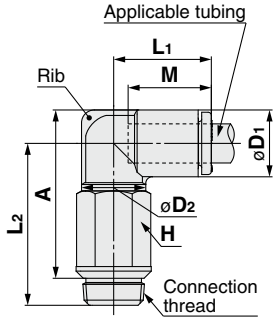



□: A (Brass), N (Brass + Electroless nickel plating)
*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 214.

### Extended Male Elbow: KQ2W (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$*1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] | With a rib |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | KQ2W01-U01□ | 11.11 | 7.1 | 10 | 14.5 | 31.5 | 30.3 | 13.3 | 2.8 | 2.4 | 2.5 | 14.5 | — |
| | 1/4 | KQ2W01-U02□ | 14.29 | 7.1 | 10 | 14.5 | 30.8 | 28 | 13.3 | 2.8 | 2.4 | 2.5 | 26 | — |
| ø5/32 | 1/8 | KQ2W03-U01□ | 11.11 | 8.2 | 10 | 14.8 | 31.1 | 30.4 | 13.3 | 4 | 4 | 3 | 14.6 | ● |
| | 1/4 | KQ2W03-U02□ | 14.29 | 8.2 | 10 | 14.8 | 31.3 | 29 | 13.3 | 4 | 4 | 3 | 26.2 | ● |
| ø3/16 | 1/8 | KQ2W05-U01□ | 11.11 | 9.1 | 10 | 15 | 31.6 | 31.3 | 13.3 | 6.8 | 5.6 | 3.5 | 14.8 | — |
| | 1/4 | KQ2W05-U02□ | 14.29 | 9.1 | 10 | 15 | 31.8 | 30 | 13.3 | 6.8 | 5.6 | 3.5 | 26.4 | — |
| ø1/4 | 1/8 | KQ2W07-U01□ | 11.11 | 11.1 | 10 | 15.6 | 32.6 | 33.3 | 13.3 | 11.3 | 10 | 4.5 | 15.1 | ● |
| | 1/4 | KQ2W07-U02□ | 14.29 | 11.1 | 10 | 15.6 | 32.8 | 32 | 13.3 | 11.3 | 10 | 4.5 | 26.8 | ● |
| | 3/8 | KQ2W07-U03□ | 17.46 | 11.1 | 10 | 15.6 | 33.9 | 33.1 | 13.3 | 11.3 | 10 | 4.5 | 45.3 | ● |
| ø5/16 | 1/8 | KQ2W09-U01□ | 11.11 | 13.2 | 10 | 16.4 | 33.6 | 35.4 | 14.2 | 11.3 | 11.3 | 4.5 | 15.9 | ● |
| | | KQ2W09-U01□Q*3 | 12.7 | 13.2 | 12 | 17.2 | 39.5 | 41.3 | 14.2 | 20.5 | 14.2 | 6 | 24.0 | ● |
| | 1/4 | KQ2W09-U02□ | 14.29 | 13.2 | 12 | 17.2 | 35.9 | 36.1 | 14.2 | 20.5 | 14.2 | 6 | 25.7 | ● |
| | 3/8 | KQ2W09-U03□ | 17.46 | 13.2 | 12 | 17.2 | 37 | 37.2 | 14.2 | 20.5 | 14.2 | 6 | 45.5 | ● |
| ø3/8 | 1/4 | KQ2W11-U02□ | 17.46 | 15.4 | 17 | 19.3 | 44.1 | 45.4 | 15.6 | 28.8 | 23.8 | 7.5 | 50.6 | ● |
| | 3/8 | KQ2W11-U03□ | 17.46 | 15.4 | 17 | 19.3 | 42.9 | 44.2 | 15.6 | 28.8 | 23.8 | 7.5 | 45 | ● |
| | 1/2 | KQ2W11-U04□ | 22.23 | 15.4 | 17 | 19.3 | 50.7 | 49.8 | 15.6 | 28.8 | 23.8 | 7.5 | 90.9 | ● |
| ø1/2 | 1/4 | KQ2W13-U02□ | 17.46 | 19.3 | 17 | 21.5 | 46 | 49.3 | 17 | 50.3 | 44.4 | 9 | 52.9 | — |
| | 3/8 | KQ2W13-U03□ | 17.46 | 19.3 | 17 | 21.8 | 48.6 | 51.9 | 17 | 56 | 44.4 | 9.5 | 52.6 | — |
| | 1/2 | KQ2W13-U04□ | 22.23 | 19.3 | 17 | 21.8 | 51.6 | 52.7 | 17 | 56 | 44.4 | 9.5 | 114.1 | — |



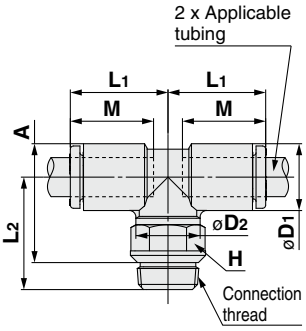

□: A (Brass), N (Brass + Electroless nickel plating)
*1 ø$D_1$ is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 214.

## Dimensions

### Male Branch Tee: KQ2T (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2T01-U01□** | 11.11 | 7.1 | 10 | 14.5 | 17.8 | 16.6 | 13.3 | 3.4 | 2.9 | 2.5 | 6.6 |
| | 1/4 | **KQ2T01-U02□** | 14.29 | 7.1 | 10 | 14.5 | 19.1 | 16.3 | 13.3 | 3.4 | 2.9 | 2.5 | 12.7 |
| ø5/32 | 1/8 | **KQ2T03-U01□** | 11.11 | 8.2 | 10 | 14.8 | 17.4 | 16.7 | 13.3 | 6 | 4.1 | 3 | 6.9 |
| | 1/4 | **KQ2T03-U02□** | 14.29 | 8.2 | 10 | 14.8 | 19.7 | 17.4 | 13.3 | 6 | 4.1 | 3 | 13 |
| ø3/16 | 1/8 | **KQ2T05-U01□** | 11.11 | 9.1 | 10 | 15 | 17.9 | 17.6 | 13.3 | 6.8 | 5.6 | 3.5 | 7.1 |
| | 1/4 | **KQ2T05-U02□** | 14.29 | 9.1 | 10 | 15 | 20.2 | 18.3 | 13.3 | 6.8 | 5.6 | 3.5 | 13.3 |
| ø1/4 | 1/8 | **KQ2T07-U01□** | 11.11 | 11.1 | 10 | 15.6 | 18.9 | 19.6 | 13.3 | 11.3 | 10 | 4.5 | 7.8 |
| | 1/4 | **KQ2T07-U02□** | 14.29 | 11.1 | 10 | 15.6 | 21.2 | 20.3 | 13.3 | 11.3 | 10 | 4.5 | 14.1 |
| | 3/8 | **KQ2T07-U03□** | 17.46 | 11.1 | 10 | 15.6 | 22.3 | 21.4 | 13.3 | 11.3 | 10 | 4.5 | 24.3 |
| ø5/16 | 1/8 | **KQ2T09-U01□** | 11.11 | 13.2 | 10 | 16.4 | 19.9 | 21.7 | 14.2 | 13.9 | 13.9 | 4.5 | 9.3 |
| | | **KQ2T09-U01□Q** *3 | 12.7 | 13.2 | 12 | 17.2 | 22.7 | 25 | 14.2 | 26.3 | 18.2 | 6 | 10.9 |
| | 1/4 | **KQ2T09-U02□** | 14.29 | 13.2 | 12 | 17.2 | 22.2 | 22.4 | 14.2 | 26.3 | 18.2 | 6 | 13.4 |
| | 3/8 | **KQ2T09-U03□** | 17.46 | 13.2 | 12 | 17.2 | 23.3 | 23.5 | 14.2 | 26.3 | 18.2 | 6 | 23.4 |
| ø3/8 | 1/4 | **KQ2T11-U02□** | 17.46 | 15.4 | 17 | 19.3 | 24.3 | 25.6 | 15.6 | 28.8 | 23.8 | 7.5 | 20.4 |
| | 3/8 | **KQ2T11-U03□** | 17.46 | 15.4 | 17 | 19.3 | 26.9 | 28.2 | 15.6 | 28.8 | 23.8 | 7.5 | 21.2 |
| | 1/2 | **KQ2T11-U04□** | 22.23 | 15.4 | 17 | 19.3 | 34.7 | 33.8 | 15.6 | 28.8 | 23.8 | 7.5 | 52.5 |
| ø1/2 | 1/4 | **KQ2T13-U02□** | 17.46 | 19.3 | 17 | 21.5 | 26.2 | 29.5 | 17 | 50.3 | 44.4 | 9 | 24.4 |
| | 3/8 | **KQ2T13-U03□** | 17.46 | 19.3 | 17 | 21.8 | 28.8 | 32.1 | 17 | 56 | 44.4 | 9.5 | 29.3 |
| | 1/2 | **KQ2T13-U04□** | 22.23 | 19.3 | 17 | 21.8 | 31.8 | 32.9 | 17 | 56 | 44.4 | 9.5 | 60.2 |

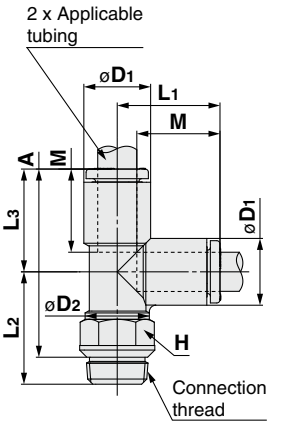



□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 214.

### Male Run Tee: KQ2Y (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | ø$D_2$ | $L_1$ | $L_2$ | $L_3$ | A*2 | M | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2Y01-U01□** | 11.11 | 7.1 | 10 | 14.9 | 17.8 | 14.9 | 28 | 13.3 | 3.4 | 2.9 | 2.5 | 6.6 |
| | 1/4 | **KQ2Y01-U02□** | 14.29 | 7.1 | 10 | 14.9 | 19.1 | 14.9 | 27.7 | 13.3 | 3.4 | 2.9 | 2.5 | 12.8 |
| ø5/32 | 1/8 | **KQ2Y03-U01□** | 11.11 | 8.2 | 10 | 15.3 | 17.4 | 15.3 | 27.9 | 13.3 | 6.4 | 4.4 | 3 | 6.9 |
| | 1/4 | **KQ2Y03-U02□** | 14.29 | 8.2 | 10 | 15.3 | 19.7 | 15.3 | 28.6 | 13.3 | 6.4 | 4.4 | 3 | 13.1 |
| ø3/16 | 1/8 | **KQ2Y05-U01□** | 11.11 | 9.1 | 10 | 15.7 | 17.9 | 15.7 | 28.8 | 13.3 | 6.8 | 5.6 | 3.5 | 7.2 |
| | 1/4 | **KQ2Y05-U02□** | 14.29 | 9.1 | 10 | 15.7 | 20.2 | 15.7 | 29.5 | 13.3 | 6.8 | 5.6 | 3.5 | 13.4 |
| ø1/4 | 1/8 | **KQ2Y07-U01□** | 11.11 | 11.1 | 10 | 16.5 | 18.9 | 16.5 | 30.6 | 13.3 | 11.3 | 10 | 4.5 | 7.9 |
| | 1/4 | **KQ2Y07-U02□** | 14.29 | 11.1 | 10 | 16.5 | 21.2 | 16.5 | 31.3 | 13.3 | 11.3 | 10 | 4.5 | 14.1 |
| | 3/8 | **KQ2Y07-U03□** | 17.46 | 11.1 | 10 | 16.5 | 22.3 | 16.5 | 32.4 | 13.3 | 11.3 | 10 | 4.5 | 24.3 |
| ø5/16 | 1/8 | **KQ2Y09-U01□** | 11.11 | 13.2 | 10 | 18.2 | 19.9 | 18.2 | 33.3 | 14.2 | 13.4 | 13.4 | 4.5 | 9.3 |
| | | **KQ2Y09-U01□Q** *3 | 12.7 | 13.2 | 12 | 18.2 | 22.7 | 18.2 | 36.7 | 14.2 | 25.6 | 17.7 | 6 | 11.0 |
| | 1/4 | **KQ2Y09-U02□** | 14.29 | 13.2 | 12 | 18.2 | 22.2 | 18.2 | 34 | 14.2 | 25.6 | 17.7 | 6 | 13.4 |
| | 3/8 | **KQ2Y09-U03□** | 17.46 | 13.2 | 12 | 18.2 | 23.3 | 18.2 | 35.1 | 14.2 | 25.6 | 17.7 | 6 | 23.5 |
| ø3/8 | 1/4 | **KQ2Y11-U02□** | 17.46 | 15.4 | 17 | 20.4 | 24.3 | 20.4 | 38.3 | 15.6 | 28.8 | 23.8 | 7.5 | 20.5 |
| | 3/8 | **KQ2Y11-U03□** | 17.46 | 15.4 | 17 | 20.4 | 26.9 | 20.4 | 40.9 | 15.6 | 28.8 | 23.8 | 7.5 | 21.3 |
| | 1/2 | **KQ2Y11-U04□** | 22.23 | 15.4 | 17 | 20.4 | 34.7 | 20.4 | 46.5 | 15.6 | 28.8 | 23.8 | 7.5 | 52.6 |
| ø1/2 | 1/4 | **KQ2Y13-U02□** | 17.46 | 19.3 | 17 | 23.4 | 26.2 | 23.4 | 43.2 | 17 | 50.3 | 44.4 | 9 | 24.7 |
| | 3/8 | **KQ2Y13-U03□** | 17.46 | 19.3 | 17 | 23.4 | 28.8 | 23.4 | 45.8 | 17 | 56 | 44.4 | 9.5 | 29.5 |
| | 1/2 | **KQ2Y13-U04□** | 22.23 | 19.3 | 17 | 23.4 | 31.8 | 23.4 | 46.6 | 17 | 56 | 44.4 | 9.5 | 60.4 |

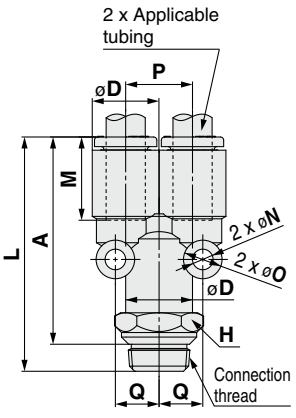



□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread
*3 For details, refer to page 214.

### Branch "Y": KQ2U (Gasket seal)



| Applicable tubing O.D. [inch] | Connection thread Uni | Model | H (Width across flats) | ø$D_1$ *1 | L | P | A*2 | M | Q | øO | øN | Effective area [mm²] Nylon | Effective area [mm²] Urethane | Min. port size | Weight [g] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ø1/8 | 1/8 | **KQ2U01-U01□** | 11.11 | 7.1 | 35.1 | 7.1 | 30.3 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 8.2 |
| | 1/4 | **KQ2U01-U02□** | 14.29 | 7.1 | 37.4 | 7.1 | 31 | 13.3 | 5.2 | 6 | 3.2 | 3.4 | 2.9 | 2.7 | 14.6 |
| ø5/32 | 1/8 | **KQ2U03-U01□** | 11.11 | 8.2 | 35.4 | 8.2 | 30.6 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 8.7 |
| | 1/4 | **KQ2U03-U02□** | 14.29 | 8.2 | 37.4 | 8.2 | 31 | 13.3 | 5.7 | 6 | 3.2 | 4.2 | 4.2 | 3.6 | 14.8 |
| ø3/16 | 1/8 | **KQ2U05-U01□** | 11.11 | 9.1 | 35.8 | 9.1 | 31 | 13.3 | 6.2 | 6 | 3.2 | 6.8 | 5.6 | 4.1 | 9 |
| | 1/4 | **KQ2U05-U02□** | 14.29 | 9.1 | 38.1 | 9.1 | 31.7 | 13.3 | 6.2 | 6 | 3.2 | 6.8 | 5.6 | 4.1 | 15.3 |
| ø1/4 | 1/8 | **KQ2U07-U01□** | 12.7 | 11.1 | 37.7 | 11.1 | 32.9 | 13.3 | 7.6 | 8 | 4 | 11.6 | 10 | 5.6 | 12 |
| | 1/4 | **KQ2U07-U02□** | 14.29 | 11.1 | 38.8 | 11.1 | 32.4 | 13.3 | 7.6 | 8 | 4 | 11.6 | 10 | 5.6 | 16.3 |
| | 3/8 | **KQ2U07-U03□** | 17.46 | 11.1 | 39.7 | 11.1 | 33.3 | 13.3 | 7.6 | 8 | 4 | 11.6 | 10 | 5.6 | 25.1 |
| ø5/16 | 1/8 | **KQ2U09-U01□** | 14.29 | 13.2 | 41.6 | 13.2 | 36.8 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 6 | 17.9 |
| | 1/4 | **KQ2U09-U02□** | 14.29 | 13.2 | 42.6 | 13.2 | 36.2 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 18.6 |
| | 3/8 | **KQ2U09-U03□** | 17.46 | 13.2 | 42.4 | 13.2 | 36 | 14.2 | 8.7 | 8 | 4.2 | 25.6 | 17.7 | 7.3 | 26.1 |
| ø3/8 | 1/4 | **KQ2U11-U02□** | 17.46 | 15.4 | 47.2 | 15.4 | 40.8 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 24.8 |
| | 3/8 | **KQ2U11-U03□** | 19 | 15.4 | 47.1 | 15.4 | 40.7 | 15.6 | 9.9 | 8 | 4.2 | 28.8 | 23.8 | 8.9 | 31.5 |
| | 1/2 | **KQ2U11-U04□** | 22.23 | 15.4 | 49.3 | 15.4 | 40.7 | 15.6 | 9.9 | 8 | 4.2 | 81 | 23.8 | 8.9 | 48.9 |
| ø1/2 | 1/4 | **KQ2U13-U02□** | 22.23 | 19.3 | 52.5 | 19.3 | 46.1 | 17 | 11.8 | 8 | 4.2 | 113 | 50.6 | 9 | 44.3 |
| | 3/8 | **KQ2U13-U03□** | 22.23 | 19.3 | 52.4 | 19.3 | 46 | 17 | 11.8 | 8 | 4.2 | 113 | 50.6 | 11 | 43 |
| | 1/2 | **KQ2U13-U04□** | 22.23 | 19.3 | 54 | 19.3 | 45.4 | 17 | 11.8 | 8 | 4.2 | 113 | 50.6 | 12.1 | 50 |




□: A (Brass), N (Brass + Electroless nickel plating)
*1 øD1 is maximum diameter.
*2 Reference dimensions after installation of Uni thread

# *KQ2 Series*
# Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

## 1 Made to Order

| Symbol | Specifications |
|---|---|
| **X12** | Lubricant: White vaseline<br>Release button color: White |
| **X35**∗1 | Body color: Black<br>Release button color: Orange |
| **X41** | With fixed orifice∗2 |
| KQ2□09-U01□**Q** | Effective area is interchangeable with the current product (KQ series).<br>Applicable model: Male elbow<br>45° male elbow<br>Extended male elbow<br>Male branch tee<br>Male run tee<br>Applicable tubing O.D./Port size: ø5/16"/Uni1/8<br>Thread material/Surface treatment: Brass, Brass + Electroless nickel plating<br>Example) **KQ2L09-U01AQ** |

∗1 The following model is not available as made-to-order: Male connector/ KQ2H

∗2 Please contact SMC for availability.

**The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.**

| Symbol | Specifications |
|---|---|
| **X17** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue |
| **X29** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Copper-free (With electroless nickel plating) |
| **X39** | Grease-free<br>Rubber material: NBR (With fluorine coating)<br>Release button color: Light blue<br>Clean (Copper-free, air blow, double packaging, resin body: white) |

## 3 Spare Parts

| Description | Part no. | Applicable thread |
|---|---|---|
| Gasket | **KQG-U01** | Uni1/8 |
| | **KQG-U02** | Uni1/4 |
| | **KQG-U03** | Uni3/8 |
| | **KQG-U04** | Uni1/2 |

## 2 Clean Series

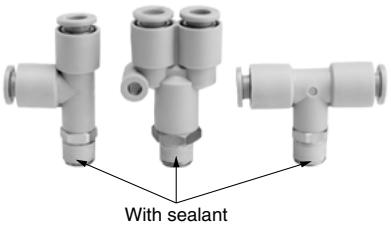
| Symbol | Specifications |
|---|---|
| **10-** | Brass parts: With electroless nickel plating<br>Lubricant: Fluorine grease<br>Air blow in a clean room<br>Double packaging<br>Resin body, Release button color: White |

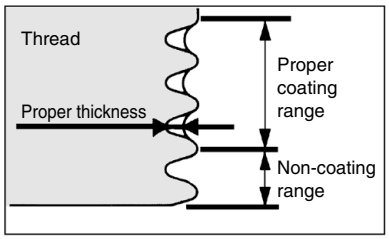
Example) **10-KQ2H07-U01N**

# Prior to Use

## Fittings with Sealant

Seal material (fluororesin) is coated on the thread part with the proper thickness and range, that reduces the piping work, such as coating the seal on the thread.




## Female Thread Conditions Applicable to Face Seal

1. Surface roughness of bearing surface: Rz 25 or less
2. Chamfer dimension: ø**D1**, Seal bearing surface diameter: ø**D2** (Refer to the table below.)
3. Female thread inclination angle: 1° or less
4. Counterbore diameter when the female thread is counterbored.: ø**D3**
   · Models with width across flats: Body width across flats x 1.1 or more
   · Models other than hexagon (Hexagon socket head male connector etc.): Body dimensions + 0.2 mm or more
   ∗ The width across flats and the body dimensions differ depending on the model even when the same thread size is used. Refer to the dimensions in the catalog.
5. If oil content or sealant is sticking to the female thread, this may cause damage of the product. Remove it before piping.

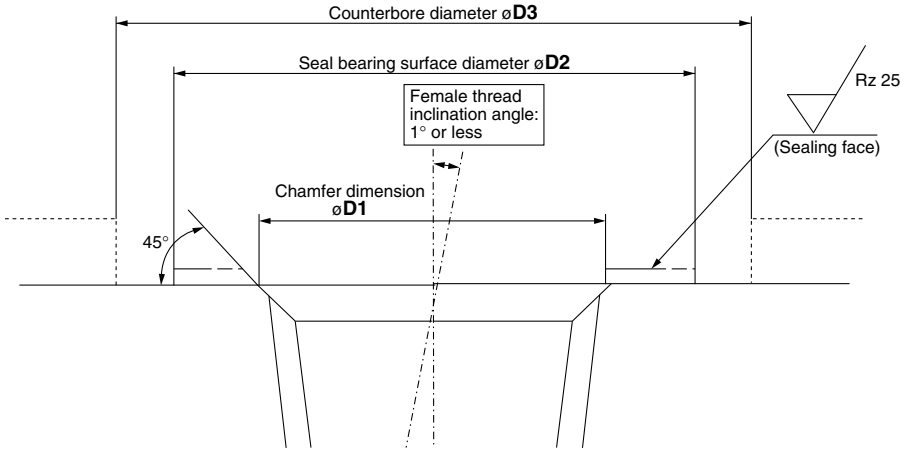



**Table 1**

| Connection thread size | Chamfer dimension ø**D1** [mm] | Seal bearing surface diameter ø**D2** [mm] |
|---|---|---|
| R1/8 | 10.2 to 10.4 | 12 or more |
| R1/4 | 13.6 to 13.8 | 17 or more |
| R3/8 | 17.1 to 17.3 | 21 or more |
| R1/2 | 21.4 to 21.6 | 27 or more |
| NPT1/16 | 8.2 to 8.4 | 11.11 or more |
| NPT1/8 | 10.5 to 10.7 | 12.7 or more |
| NPT1/4 | 14.1 to 14.3 | 17.46 or more |
| NPT3/8 | 17.4 to 17.6 | 22 or more |
| NPT1/2 | 21.7 to 21.9 | 28.7 or more |
| G1/8 | 10.2 to 10.6 | 12 or more |
| G1/4 | 13.6 to 14.0 | 17 or more |
| G3/8 | 17.1 to 17.5 | 21 or more |
| G1/2 | 21.4 to 21.8 | 27 or more |

⚠ **Precautions**

For products that do not satisfy the female thread conditions shown above and the piping with a piping pitch narrower than the product dimension, use the current sealant type.

∗ The rubber parts of the face seal cannot be replaced.

∗ The rubber parts of the face seal may fall off by the air blow and they cannot be mounted again. Be careful not to perform the air blow.

# Fittings & Tubing Precautions 1

**Be sure to read this before handling products.**

## Design / Selection

### ⚠Warning

**1. Confirm the specifications.**

Products represented in this catalog are designed only for use in compressed air systems (including vacuum). Do not operate at pressures, temperatures, etc., beyond the range of specifications, as this can cause damage or malfunction. (Refer to the specifications.)

Please contact SMC when using a fluid other than compressed air (including vacuum).

We do not guarantee against any damage if the product is used outside of the specification range.

**2. Do not disassemble the product or make any modifications, including additional machining.**

It may cause human injury and/or an accident.

**3. Check if PTFE can be used in application.**

PTFE powder (Polytetrafluoroethylene resin) is included in the sealant. Confirm that the use of it will not cause any adverse affect on the system.

### ⚠Caution

**1. Keep the connection part of fittings and tubing from rotating or oscillating movement. Use Rotary One-touch Fittings (KS or KX series) in these cases.**

The fittings may be damaged if they are used in the above manner.

**2. The tubing bending radius in the vicinity of the fitting should be at least the minimum bending radius of the tubing.**

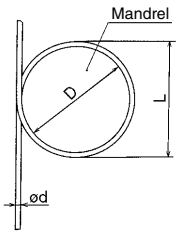
If the bending radius is less than the minimum value, fittings may damage, or tubing may crack or be crushed. The minimum bending radius of the FR soft nylon tubing (TRS series), FR double layer tubing (TRB series), antistatic soft nylon tubing (TAS series), polyolefin tubing (TPH series), and soft polyolefin tubing (TPS series) is measured as following in accordance with JIS B 8381.

Tubing deformation ratio at the minimum bending radius is obtained through the following formula, based on tubing diameter and mandrel diameter by winding the same radius mandrel tube.

**Tube deformation ratio at the minimum bending radius**

$$\eta = \left(1 - \frac{L - D}{2d}\right) \times 100$$

Here, $\eta$ : Deformation ratio [%]
d : Tubing diameter [mm]
L : Measured length [mm]
D : Mandrel diameter [mm] (Twice against the minimum bending radius)
Test temperature: 20 ±5°C
Relative humidity: 65 ±5%




**3. Do not use fluids other than listed on the specifications.**

Applicable fluids are air and water. Please consult with SMC if using other fluids.

**4. When it is used with water, the fittings or tubing may be damaged depending on the surge pressure.**

**5. Depending on the storage or operating environment and the period of storage or use, the surface of the brass (C3604) may blacken. If the discoloration of the brass is a problem, we recommend selecting electroless nickel-plated brass instead.**

Example) KQ2H06-01 NS

## Mounting / Piping

### ⚠Warning

**1. Operation manual**

Install the products and operate them only after reading the operation manual carefully and understanding its contents. Also, keep the manual where it can be referred to as necessary.

**2. Maintenance space**

Allow sufficient space for maintenance and inspection.

**3. Adhere to the thread tightening method.**

Refer to “Connection Thread Tightening Method” when mounting the product.

**4. There may be cases of the tubing detaching from the fitting and thrashing around uncontrollably due to tubing degradation or fitting breakage.**

To prevent the situation from becoming uncontrollable, fit the tubing with a protective cover or fix it in place.

### ⚠Caution

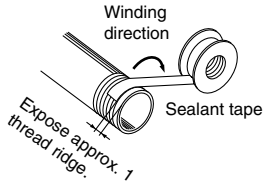
**1. Preparation before piping**

Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.

**2. Winding of sealant tape**

When screwing together pipes and fittings, etc., be certain that chips from the pipe threads and sealant do not get inside the pipe.

Also, when the sealant tape is used, leave approx. 1 thread ridge exposed at the end of the threads.




**3. Check the model, type and size before installation. Also, confirm that there is no scratches, gouges or cracks on the product.**

**4. When connecting the tubing, take pressure or possible changes to the tubing length into account, and allow a sufficient margin.**

Failure to do so may result in fitting breakage or detachment of the tubing. Refer to the recommended piping conditions.

**5. Do not apply unnecessary forces such as twisting, pulling, moment loads, vibration and impact, etc. on fittings or tubing.**

This will cause damage to fittings and will crush, burst or release tubing.

**6. Tubing, with the exception of coiled tubing, requires stationary installation. Do not use standard tubing (non-coiled) in applications where tubing is required to travel inside the flexible protection tube. Tubing that travels may sustain abrasion, extension, or severance due to tensile force, or may result in removal of tubing from fitting. Use caution prior to use for proper application.**

**7. To install the fitting, screw the fitting into the hexagonal face of the body, and tighten with an appropriate wrench.**

Affix the wrench at the base of the thread. If the size of hexagonal face and wrench do not match, or tightening takes place near the tube side, it may cause collapse or deformation of the hexagonal face, or damage to the equipment. After installing, confirm that there is no damage to the fitting, etc.

# Fittings & Tubing Precautions 2

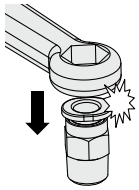
**Be sure to read this before handling products.**

## Mounting / Piping

### ⚠Caution

**8. Interference in oval type release button**

The following models cannot be used if a box wrench or socket wrench is used.



**KQ2 Series**

| Model | Applicable tubing | Connection thread | Part number |
|---|---|---|---|
| Male connector | ø3.2 | M3 x 0.5 | KQ2H23-M3G1 |
| | ø3.2 | M5 x 0.8 | KQ2H23-M5□1 |
| | ø4 | M3 x 0.5 | KQ2H04-M3G1 |
| | ø4 | M5 x 0.8 | KQ2H04-M5□1 |
| | ø4 | M6 x 1.0 | KQ2H04-M6□1 |
| | ø6 | M5 x 0.8 | KQ2H06-M5□1 |
| | ø6 | M6 x 1.0 | KQ2H06-M6□1 |
| | ø6 | R1/8 | KQ2H06-01□S1 |
| | ø1/8 | 10-32UNF | KQ2H01-32□1 |
| | ø5/32 | 10-32UNF | KQ2H03-32□1 |
| | ø3/16 | 10-32UNF | KQ2H05-32□1 |
| | ø5/32 | NPT1/16 | KQ2H03-33□S1 |
| | ø1/8 | M5 x 0.8 | KQ2H01-M5□1 |
| | ø3/16 | M5 x 0.8 | KQ2H05-M5□1 |
| | ø3/16 | R1/8 | KQ2H05-01□S1 |
| Female connector | ø4 | M3 x 0.5 | KQ2F04-M3□1 |
| | ø4 | M5 x 0.8 | KQ2F04-M5□1 |
| | ø6 | M5 x 0.8 | KQ2F06-M5□1 |
| | ø1/8 | 10-32UNF | KQ2F01-32□1 |
| | ø5/32 | 10-32UNF | KQ2F03-32□1 |
| | ø1/8 | M3 x 0.5 | KQ2F23-M3□1 |
| | ø1/8 | M5 x 0.8 | KQ2F23-M5□1 |

□: A (Brass), N (Brass + Electroless nickel plating)

**KQ2-G Stainless Steel Series**

| Model | Applicable tubing | Connection thread | Part number |
|---|---|---|---|
| Male connector | ø4 | M5 x 0.8 | KQ2H04-M5G1 |
| | ø6 | M5 x 0.8 | KQ2H06-M5G1 |
| | ø6 | R1/8 | KQ2H06-01GS1 |

## Air Supply

### ⚠Warning

**1. Type of fluids**

Please consult with SMC when using the product in applications other than compressed air.

Regarding products for general fluids, please contact SMC concerning applicable fluids.

**2. When there is a large amount of drainage**

Compressed air containing a large amount of drainage can cause malfunction of pneumatic equipment. An air dryer or water separator should be installed upstream from filters.

**3. Drain flushing**

If condensation in the drain bowl is not emptied on a regular basis, the bowl will overflow and allow the condensation to enter the compressed air lines. This causes the malfunction of pneumatic equipment.

If the drain bowl is difficult to check and remove, the installation of a drain bowl with an auto drain option is recommended.

Refer to “SMC Air Preparation System” for further details on compressed air quality.

**4. Use clean air.**

Do not use compressed air that contains chemicals, synthetic oils that include organic solvents, salt, corrosive gases, etc., as they can cause damage or malfunction.

## Air Supply

### ⚠Caution

**1. Install an air filter.**

Install an air filter at the upstream side of valve.
Select an air filter with a filtration degree of 5 μm or finer.

**2. Install an aftercooler, air dryer or water separator, etc.**

Compressed air containing a large amount of drainage can cause the malfunction of pneumatic equipment. Therefore, take appropriate measures to ensure air quality, such as by providing an aftercooler, air dryer, or water separator.

**3. Ensure that the fluid and ambient temperature are within the specified range.**

If the fluid temperature is 5°C or less, the moisture in the circuit could freeze, causing damage to the seals and leading to equipment malfunction. Therefore, take appropriate measures to prevent freezing.

Refer to “SMC Air Preparation System” for further details on compressed air quality.

## Operating Environment

### ⚠Warning

**1. Do not use in an atmosphere where corrosive gases, chemicals, sea water, water, or water steam is present. Do not use in cases where there is direct contact with any of the above.**

Refer to each construction drawing on the fittings and tubing material.

**2. Do not expose the product to direct sunlight for an extended period of time.**

**3. Do not use in a place subject to heavy vibration and/or impact.**

**4. Do not mount the product in locations where it is exposed to radiant heat.**

**5. Do not use the ordinary fittings and tubing in locations where static electricity would be problematic.**

It may result in the system failure and trouble. In such places, use of antistatic fittings (KA series) and antistatic tubing (TA series) are recommended.

**6. Do not use the ordinary fittings and tubing in locations where spatter is generated.**

Spattering may result in a fire hazard. In such a place, use of flame resistant fittings (KR/KRM series) and flame resistant tubing (TRS/TRB/TRBU/TRTU series) are recommended.

**7. Do not use in an environment where the product is directly exposed to cutting oil, lubricant, coolant oil, etc.**

Please contact SMC if using for an environment exposed to cutting oil, lubricant or coolant oil, etc.

**8. Take note that if nylon tubing and soft nylon tubing are used in a clean room.**

The antioxidant on the surface of the soft nylon tubing may come off, thereby lowering the cleanness level.

**9. Do not use in environments where foreign matter may stick to the product or get mixed in the product’s interior.**

This may cause leakage or disconnection of the tubing.

# Fittings & Tubing Precautions 3

**Be sure to read this before handling products.**

## Maintenance

### ⚠Warning

**1. Perform maintenance inspections according to the procedures indicated in the operation manual.**
If handled improperly, malfunction and damage of machinery or equipment may occur.

**2. Maintenance work**
If handled improperly, compressed air can be dangerous. The assembly, handling, repair, and element replacement of pneumatic systems should be performed by a knowledgeable and experienced person.

**3. Drain flushing**
Remove drainage from air filters regularly.

**4. Removal of equipment and supply/exhaust of compressed air**
When components are removed, first confirm that measures are in place to prevent workpieces from dropping, run-away equipment, etc. Then, cut off the supply pressure and electric power, and exhaust all compressed air from the system using the residual pressure release function.
When the equipment is restarted, proceed with caution after confirming that appropriate measures are in place to prevent cylinders from sudden movement.

### ⚠Caution

**1. Be certain to wear safety glasses at all times during periodical inspections.**

**2. Replace fittings or tubing having the following problems.**
1) Cracks, gouges, wearing, corrosion
2) Air leakage
3) Twists or crushing of tubing
4) Hardening, deterioration, softening of tubing

**3. When replacing tubes or fittings, do not try to mend or repair and then reuse them.**

## One-touch Fittings
## Mounting / Piping

### ⚠Caution

**1. Installation and removal of tubing for One-touch fittings**

**1) Installation of tubing**

(1) Cut the tubing perpendicularly, being careful not to damage the outside surface. Use an SMC tube cutter TK-1, 2, 3, 5 or 6. Do not cut the tubing with pliers, nippers, scissors, etc., otherwise, the tubing will be deformed and trouble may result.

(2) The outside diameter of the polyurethane tubing swells when internal pressure is applied to it. Therefore, it may be possible that the tubing cannot be re-inserted into the One-touch fitting. Check the tubing outside diameter, and when the accuracy of the outside diameter is +0.07 mm or larger for ø2, +0.15 mm or larger for other sizes, insert into the One-touch fitting again, without cutting the tubing to use it. When the tubing is re-inserted into the One-touch fitting, confirm that the tubing goes through the release button smoothly.

## One-touch Fittings
## Mounting / Piping

### ⚠Caution

(3) Grasp the tubing, slowly push it straight (0 to 5°) into the One-touch fitting until it comes to a stop.

(4) Pull the tubing back gently to make sure it has a positive seal. Insufficient installation may cause air to leak or the tubing to release.
As a guide for checking the tubing is not pulled out, refer to the following table.

| Tubing size | Tensile force of tubing [N] |
|---|---|
| ø2, 3.2, 1/8" | 5 |
| ø4, 5/32", 3/16" | 8 |
| ø6, 1/4" | 12 |
| ø8, 5/16" | 20 |
| ø10, 3/8" | 30 |
| ø12, 1/2" | 35 |
| ø16 | 50 |

**2) Removal of tubing**

(1) Push the release button flange evenly and sufficiently to release the tube. Do not push in the tubing before pressing the release button.

(2) Pull out the tubing while keeping the release button depressed. If the release button is not held down sufficiently, the tubing cannot be withdrawn.

(3) To reuse the tubing, remove the previously lodged portion of the tubing. If the lodged portion is left on without being removed, it may result in air leakage and removal of the tubing difficult.

**2. Connecting products with metal rods**

Products with metal rods (KC series, previous KQ series, KN series, and KM series, etc.) cannot be connected to KQ2 series One-touch fittings. If connected, the metal rod cannot be retained by the chuck of the One-touch fitting and products with metal rods may project during pressurization, causing serious personal injury or accident.
Even when products with metal rods can be connected to other One-touch fittings, do not use any tube, resin plug, or reducer after connection. This may cause releasing.
For details about One-touch fittings that can connect products with metal rods, contact SMC.

# Fittings & Tubing Precautions 4

**Be sure to read this before handling products.**

## Connection Thread Tightening Method

### 1. Connection thread: M3

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/4 turn.
A reference value for the tightening torque is 0.4 to 0.5 N·m.

### 2. Connection thread: M5 and 10-32UNF

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/6 to 1/4 turn.
A reference value for the tightening torque is 1 to 1.5 N·m.

### 3. Connection thread: M6

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/6 to 1/4 turn.

∗ Excessive tightening may damage the thread portion or deform the gasket and cause air leakage.
Insufficient tightening may loosen the threads, or cause air leakage.

### 4. Fittings with sealant: R, NPT

1) First, tighten the fitting by hand, then use a wrench appropriate for the hexagon flats of the body to tighten it a further two or three turns.
For a tightening torque guide, see the table below.

| Connection thread size (R, NPT) | Tightening torque [N·m] |
|---|---|
| 1/16, 1/8 | 3 to 5 |
| 1/4 | 8 to 12 |
| 3/8 | 15 to 20 |
| 1/2 | 20 to 25 |

2) If the fitting is tightened with excessive torque, a large amount of sealant will seep out. Remove the excess sealant.

3) Insufficient tightening may cause seal failure, or loosen the threads.

4) Reuse

(1) Normally, fittings with a sealant can be reused up to 2 to 3 times.

(2) To prevent air leakage through the sealant, remove any loose sealant stuck to the fitting by blowing air over the threaded portion.

(3) If the sealant no longer provides effective sealing, wind sealing tape over the sealant before reusing. Do not use the sealant in any form other than a tape type.

(4) Once the fitting has been tightened, backing it out to its original position often causes the sealant to become defective. Air leakage will occur.

### 5. Face seal fittings: R, NPT, G

1) Tighten fittings with sealant using the proper tightening torques in the table below.

| Connection thread size (R, NPT, G) | Proper tightening torque [N·m] |
|---|---|
| 1/16, 1/8 | 3 to 5 |
| 1/4 | 8 to 12 |
| 3/8 | 15 to 20 |
| 1/2 | 20 to 25 |

2) Insufficient tightening may cause seal failure, or loosen the threads.

3) Reuse

(1) Normally, fittings with a sealant can be reused up to 6 to 10 times.

(2) The seal ring cannot be replaced.

### 6. Uni thread fittings

1) First, tighten the threaded portion by hand, then use a proper wrench, which could be suitable for the width across flats of the hexagon body, to tighten it further at a wrench tightening angle shown below. As a reference value for the tightening torque, refer to the table below.

**Connection Female Thread: Rc, NPT, NPTF**

| Uni thread size | Wrench tightening angle after hand-tightening [deg] | Tightening torque [N·m] |
|---|---|---|
| 1/8 | 30 to 60 | 3 to 5 |
| 1/4 | 30 to 60 | 8 to 12 |
| 3/8 | 15 to 45 | 14 to 16 |
| 1/2 | 15 to 30 | 20 to 22 |

**Connection Female Thread: G**

| Uni thread size | Wrench tightening angle after hand-tightening [deg] | Tightening torque [N·m] |
|---|---|---|
| 1/8 | 30 to 45 | 3 to 4 |
| 1/4 | 15 to 30 | 4 to 5 |
| 3/8 | 15 to 30 | 8 to 9 |
| 1/2 | 15 to 30 | 14 to 15 |

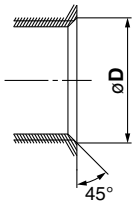
2) The gasket can be reused up to 6 to 10 times. It can be replaced easily when it has sustained damage. A broken gasket can be removed by holding it and then turning it in the same direction as loosening the thread. If gasket is difficult to remove, cut it with nippers, etc. In such a case, use caution not to scratch the seat face because the seat face of 45° gasket of fitting is the sealing face.

## Chamfer Dimension for Female Thread

## ⚠Caution

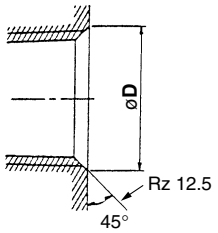
### 1. Chamfer dimension for female thread of the connection thread M3, M5, 10-32UNF

Confirming to ISO 16030 (air pressure fluid dynamics – connection – ports and stud ends), the chamfer dimensions shown below are recommended. By chamfering as shown in the following table, machining of threads is easier and effective for burr prevention.




| Connection thread size | Chamfer dimension ø**D** (Recommended value) [mm] |
|---|---|
| M3 | 3.1 to 3.4 |
| M5 | 5.1 to 5.4 |
| 10-32UNF | 5.0 to 5.3 |

### 2. Chamfer dimension of R and NPT thread with sealant, and Uni thread




| Connection thread size | Chamfer dimension ø**D** (Recommended value) | | |
|---|---|---|---|
| | G | Rc | NPT, NPTF |
| 1/16 | — | — | 8.2 to 8.4 |
| 1/8 | 10.2 to 10.6 | 10.2 to 10.4 | 10.5 to 10.7 |
| 1/4 | 13.6 to 14.0 | 13.6 to 13.8 | 14.1 to 14.3 |
| 3/8 | 17.1 to 17.5 | 17.1 to 17.3 | 17.4 to 17.6 |
| 1/2 | 21.4 to 21.8 | 21.4 to 21.6 | 21.7 to 21.9 |

∗ For Uni thread, Rz 12.5 is necessary for sealing at the chamfered part.

# Fittings & Tubing Precautions 5

**Be sure to read this before handling products.**

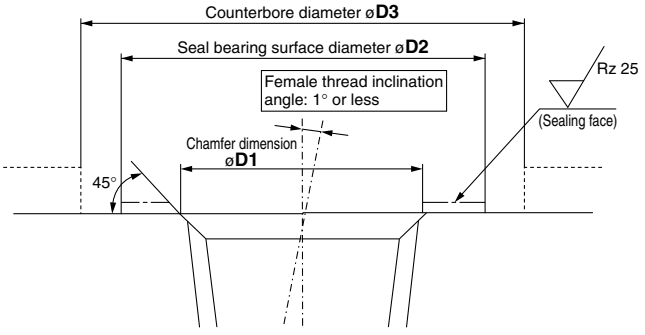
## Chamfer Dimension for Female Thread

### ⚠Caution

**3. Chamfer dimension for female thread of face seal fitting (R, NPT, G)**

1) Surface roughness of bearing surface: Rz 25 or less
2) Chamfer dimension: ø**D1**, Seal bearing surface diameter: ø**D2** (Refer to the table below.)
3) Female thread inclination angle: 1° or less
4) Counterbore diameter when the female thread is counterbored.: ø**D3**
   · Models with width across flats: Body width across flats x 1.1 or more
   · Models other than hexagon (Hexagon socket head male connector etc.): Body dimensions + 0.2 mm or more
   ∗ The width across flats and the body dimensions differ depending on the model even when the same thread size is used. Refer to the dimensions in the catalog.
5) If oil content or sealant is sticking to the female thread, this may cause damage of the product. Remove it before piping.

| Connection thread size | Chamfer dimension ø**D1** [mm] | Seal bearing surface diameter ø**D2** [mm] |
|---|---|---|
| R1/8 | 10.2 to 10.4 | 12 or more |
| R1/4 | 13.6 to 13.8 | 17 or more |
| R3/8 | 17.1 to 17.3 | 21 or more |
| R1/2 | 21.4 to 21.6 | 27 or more |
| NPT1/16 | 8.2 to 8.4 | 11.11 or more |
| NPT1/8 | 10.5 to 10.7 | 12.7 or more |
| NPT1/4 | 14.1 to 14.3 | 17.46 or more |
| NPT3/8 | 17.4 to 17.6 | 22 or more |
| NPT1/2 | 21.7 to 21.9 | 28.7 or more |
| G1/8 | 10.2 to 10.6 | 12 or more |
| G1/4 | 13.6 to 14.0 | 17 or more |
| G3/8 | 17.1 to 17.5 | 21 or more |
| G1/2 | 21.4 to 21.8 | 27 or more |




## Recommended Piping Conditions

**1. When connecting piping to the One-touch fitting, use pipe length with sufficient margin, in accordance with the piping conditions shown in Fig. 1.**

Also, when using a tying band, etc., to bind the piping together, make sure that external force does not come to bear on the fitting. (See Fig. 2.)

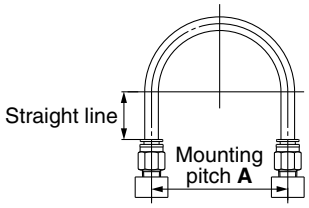



**Fig. 1 Recommended piping**

Unit: [mm]

| Tubing size | Mounting pitch **A** | | | Straight line length |
|---|---|---|---|---|
| | Nylon tubing | Soft nylon tubing | Polyurethane tubing | |
| ø2 | — | — | 13 or more | 10 or more |
| ø3.2, 1/8" | 44 or more | 35 or more | 25 or more | 16 or more |
| ø4, 5/32" | 56 or more | 44 or more | 26 or more | 20 or more |
| ø3/16" | 67 or more | 52 or more | 38 or more | 24 or more |
| ø6 | 84 or more | 66 or more | 39 or more | 30 or more |
| ø1/4" | 89 or more | 70 or more | 57 or more | 32 or more |
| ø8, 5/16" | 112 or more | 88 or more | 52 or more | 40 or more |
| ø10 | 140 or more | 110 or more | 69 or more | 50 or more |
| ø3/8" | 134 or more | 105 or more | 69 or more | 48 or more |
| ø12 | 168 or more | 132 or more | 88 or more | 60 or more |
| ø1/2" | 178 or more | 140 or more | 93 or more | 64 or more |
| ø16 | 224 or more | 176 or more | 114 or more | 80 or more |

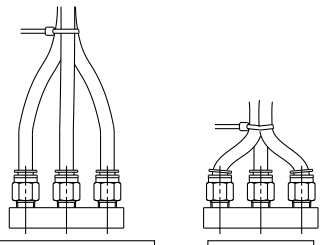



**Fig. 2 When using a tying band to bind the piping together**

## Tubing
## Design / Selection

### ⚠Caution

**1. When using a tubing other than from SMC, be careful of the tolerance of the tubing O.D. and tubing material.**

1) Nylon tubing Within ±0.1 mm
2) Soft nylon tubing Within ±0.1 mm
3) Polyurethane tubing Within +0.15 mm, Within −0.2 mm

Do not use the tubing which does not satisfy the specified tubing O.D. accuracy, or if the tubing has a different I.D., material, hardness, or surface roughness from those of SMC's tubing. Please consult SMC if there is anything unclear. It may cause difficulty in connecting the tubing, leakage, disconnection of the tubing, or fitting damage.
When used with tubing other than those from SMC, due to their properties, the products listed below are not subject to warranty.
KQG2, KQB2, KFG2, KF, ø2M

**2. When using fittings other than those from SMC, be certain to confirm that operating conditions are such that no problems will arise.**

# *KQ2C Series*
# Notes when Ordering Color Caps

In order to improve operability, the outside diameter of the release button has been enlarged for the **new KQ2** series.
Therefore, the usable color caps will differ between pre-change and post-change products.
Please contact SMC if anything is unclear.

## Applicable Sizes and Models

| | Applicable tubing O.D. | Model |
|---|---|---|
| Metric size | ø8, ø10, ø12, ø16 | All models*1 |
| Inch size | ø1/4", ø3/8", ø1/2" | |

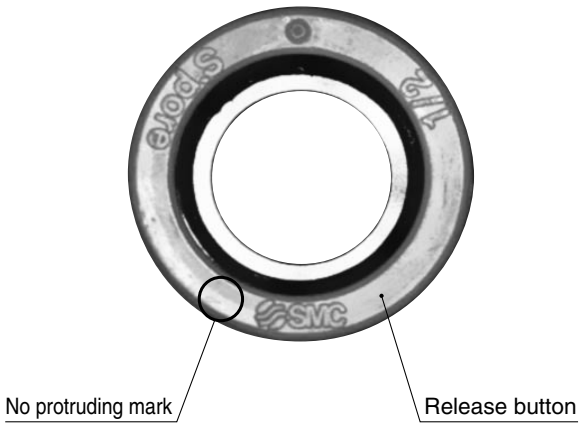
*1 Excluding models without release buttons

## How to Identify Release Buttons Before and After Change

The release button for both the fitting/**KQ2** and color cap/**KQ2C** after the change can be identified by the protruding mark on the left side of the SMC logo, and the release button before the change has no protruding mark. The same identification method is used for metric size and inch size.

* Along with the change of the release button, the model of the color cap/**KQ2C** is changed from **KQ2C-□A** to **KQ2C-□B**.
* There is no change of the model for the fitting/**KQ2**.

### Before change




**Applicable color cap**

**Metric Size**

| Applicable tubing O.D. [mm] | Model | ø**D1** | ø**D2** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø**8** | **KQ2C-08□A** | 12.8 | 9.2 | 2.6 | 0.1 |
| ø**10** | **KQ2C-10□A** | 15.2 | 11.2 | 2.7 | 0.1 |
| ø**12** | **KQ2C-12□A** | 17.6 | 13.2 | 2.7 | 0.1 |
| ø**16** | **KQ2C-16□A** | 22.4 | 17.2 | 3.2 | 0.2 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

**Inch Size**

| Applicable tubing O.D. [inch] | Model | ø**D1** | ø**D2** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø**1/4** | **KQ2C-07□A** | 10.7 | 7.5 | 2.6 | 0.1 |
| ø**3/8** | **KQ2C-11□A** | 14.8 | 10.7 | 2.7 | 0.1 |
| ø**1/2** | **KQ2C-13□A** | 18.5 | 13.9 | 2.7 | 0.1 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

### After change




**Applicable color cap**

**Metric Size**

| Applicable tubing O.D. [mm] | Model | ø**D1** | ø**D2** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø**8** | **KQ2C-08□B** | 13.6 | 9.2 | 2.6 | 0.1 |
| ø**10** | **KQ2C-10□B** | 16.2 | 11.2 | 2.7 | 0.1 |
| ø**12** | **KQ2C-12□B** | 18.8 | 13.2 | 2.7 | 0.2 |
| ø**16** | **KQ2C-16□B** | 24.2 | 17.2 | 3.2 | 0.3 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

**Inch Size**

| Applicable tubing O.D. [inch] | Model | ø**D1** | ø**D2** | **L** | Weight [g] |
|---|---|---|---|---|---|
| ø**1/4** | **KQ2C-07□B** | 11.5 | 7.5 | 2.6 | 0.1 |
| ø**3/8** | **KQ2C-11□B** | 15.7 | 10.7 | 2.7 | 0.1 |
| ø**1/2** | **KQ2C-13□B** | 19.6 | 13.9 | 2.7 | 0.2 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

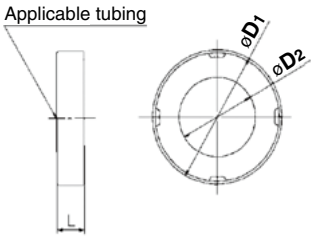
# *KQ2C Series*
# Precautions for Color Caps Applicable to Products Other than the New KQ2

Please note that color cap models for products other than the **New KQ2** One-touch fittings are different.
The table of applicable color caps is shown below.
Please contact SMC for any questions.

## Table of Applicable Color Caps

### Metric Size

| Description | Applicable series | Applicable tubing O.D. mm | Model | øD1 | øD2 | L | Weight g |
|---|---|---|---|---|---|---|---|
| **Rectangular Multi-connector** | **KDM** | **ø3.2** | **KQ2C-01□** | 9.1 | 4.35 | 2.9 | 0.1 |
| | | **ø4** | **KQ2C-04□** | 10.1 | 5.2 | 2.9 | 0.1 |
| | | **ø6** | **KQ2C-06□** | 12.1 | 7.2 | 2.9 | 0.1 |
| | | **ø8** | **KQ2C-08□** | 14.1 | 9.2 | 2.9 | 0.1 |
| **Multi-connector with One-touch Fittings** | **DMK** | **ø3.2** | **KQ2C-01A-□** | 7.35 | 4.2 | 2.5 | 0.1 |
| | | **ø4** | **KQ2C-04A-□** | 8.5 | 5 | 2.2 | 0.1 |
| **S Couplers** Straight Type with One-touch Fitting **KK2□-□H** / Bulkhead Type with One-touch Fitting **KK2□-□E** | **KK2□-□H KK2□-□E** | **ø3.2** | **KQ2C-01A-□** | 7.35 | 4.2 | 2.5 | 0.1 |
| | | **ø4** | **KQ2C-04A-□** | 8.5 | 5 | 2.2 | 0.1 |
| | | **ø6** | **KQ2C-06A-□** | 10.5 | 7 | 2.2 | 0.1 |
| **S Couplers** Elbow Type with One-touch Fitting | **KK2□-23L** | **ø3.2** | **KQ2C-01B-□** | 8.8 | 4.2 | 2.5 | 0.1 |
| | **KK2□-04L** | **ø4** | **KQ2C-04B-□** | 9.7 | 5 | 2.2 | 0.1 |
| | **KK2□-06L** | **ø6** | **KQ2C-06B-□** | 12 | 7 | 2.2 | 0.1 |
| **S Couplers** | **KK3** | **ø4** | **KQ2C-04□** | 10.1 | 5.2 | 2.9 | 0.1 |
| | **KK3, KK4** | **ø6** | **KQ2C-06□** | 12.1 | 7.2 | 2.9 | 0.1 |
| | | **ø8** | **KQ2C-08□** | 14.1 | 9.2 | 2.9 | 0.1 |
| | | **ø10** | **KQ2C-10□** | 17.1 | 11.2 | 2.9 | 0.2 |
| | **KK4, KK6** | **ø12** | **KQ2C-12□** | 19.1 | 13.2 | 2.9 | 0.2 |
| **One-touch Fittings Manifold** | **KM** | **ø4** | **KQ2C-04□** | 10.1 | 5.2 | 2.9 | 0.1 |
| | | **ø6** | **KQ2C-06□** | 12.1 | 7.2 | 2.9 | 0.1 |
| | | **ø8** | **KQ2C-08□** | 14.1 | 9.2 | 2.9 | 0.1 |
| | | **ø10** | **KQ2C-10□** | 17.1 | 11.2 | 2.9 | 0.2 |
| **Self-seal Fittings** / **Rotary One-touch Fittings** | **KC KS/KX** | **ø4** | **KQ2C-04□** | 10.1 | 5.2 | 2.9 | 0.1 |
| | | **ø6** | **KQ2C-06□** | 12.1 | 7.2 | 2.9 | 0.1 |
| | | **ø8** | **KQ2C-08□** | 14.1 | 9.2 | 2.9 | 0.1 |
| | | **ø10** | **KQ2C-10□** | 17.1 | 11.2 | 2.9 | 0.2 |
| | | **ø12** | **KQ2C-12□** | 19.1 | 13.2 | 2.9 | 0.2 |
| **Piping Module** | **KB** | **ø4** | **KQ2C-04□** | 10.1 | 5.2 | 2.9 | 0.1 |
| | | **ø6** | **KQ2C-06□** | 12.1 | 7.2 | 2.9 | 0.1 |
| | | **ø8** | **KQ2C-08□** | 14.1 | 9.2 | 2.9 | 0.1 |
| | | **ø10** | **KQ2C-10□** | 17.1 | 11.2 | 2.9 | 0.2 |
| | | **ø12** | **KQ2C-12□** | 19.1 | 13.2 | 2.9 | 0.2 |
| | | **ø16** | **KQ2C-16□** | 26.3 | 17.2 | 3.9 | 0.3 |




□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

### Inch Size

| Description | Applicable series | Applicable tubing O.D. Inch | Model | øD1 | øD2 | L | Weight g |
|---|---|---|---|---|---|---|---|
| **Rectangular Multi-connector** | **KDM** | 1/8" | **KQ2C-01□** | 9.1 | 4.35 | 2.9 | 0.1 |
| | | 1/4" | **KQ2C-07□** | 12.6 | 7.5 | 2.9 | 0.1 |
| **One-touch Fittings Manifold** | **KM** | 1/4" | **KQ2C-07□** | 12.6 | 7.5 | 2.9 | 0.1 |
| | | 3/8" | **KQ2C-11□** | 16.6 | 10.65 | 2.9 | 0.2 |
| | | 1/2" | **KQ2C-13□** | 20.6 | 1.85 | 2.9 | 0.2 |
| **Rotary One-touch Fittings** | **KS** | 1/4" | **KQ2C-07□** | 12.6 | 7.5 | 2.9 | 0.1 |
| | | 3/8" | **KQ2C-11□** | 16.6 | 10.65 | 2.9 | 0.2 |

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

# ⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

**⚠ Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

**⚠ Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

**⚠ Danger :** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

## ⚠ Warning

**1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

**2. Only personnel with appropriate training should operate machinery and equipment.**

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

**3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.**

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

**4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

## ⚠ Caution

**1. The product is provided for use in manufacturing industries.**

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

## Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

### Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

### Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## ⚠ Caution

**SMC products are not intended for use as instruments for legal metrology.**

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

**Revision History**

Edition B
* Correction of errors in dimensions
* Pages 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 27, 28, 29, 38, 39, 41, 49, 52, 53, 60, 68, 70
* Addition of proof pressure conditions
* Change of tightening conditions (Torque, Number of rotations)
* Addition of color cap

* Addition of made to order (White vaseline, Black body)
* Addition of Clean Series RS

Edition C
* Addition of face seal
* Correction of errors in dimensions
Pages 11, 13, 15, 16, 23, 26, 40, 46, 51, 60, 61, 104, 105
* Deletion of the note about "Applicable Tubing"
Pages 1, 33, 57, 65, 101, 109

* Number of pages increased from 88 to 124 RZ

Edition D
* Addition of oval type release button
* Addition of products with interchangeable effective area (KQ2□□-□□Q□)
* Addition of made to order
* Number of pages increased from 124 to 224 UX