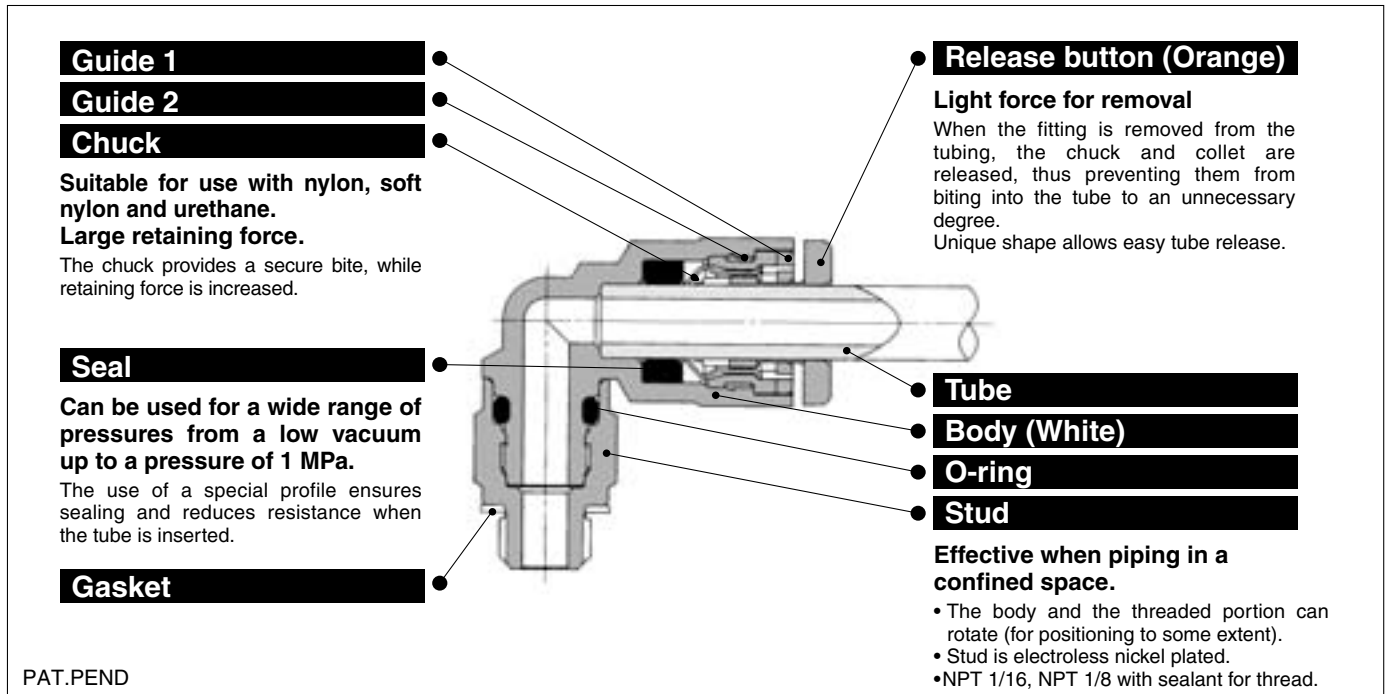


# Inch-size Miniature One-touch Fittings

## Series KJ

Applicable Tubing :  $\phi 1/8''$ ,  $\phi 5/32''$ ,  $\phi 1/4''$

Connection Thread : 10-32 UNF, NPT 1/16, NPT 1/8



**Optimum piping in less space with 20% reduction of the outside**

**Thread with sealant is standard.**

**Copper-free specifications (Electroless nickel plated)**

**Possible to use from vacuum -100 kPa**



**Made to Order**  
(Refer to page 36 for details.)

### Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon <sup>(1)</sup> , Polyurethane
Tubing O.D.	$\phi 1/8$ , $\phi 5/32$ , $\phi 1/4$



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

### Specifications

<b>Fluid</b>		Air/Water <sup>(2)</sup>
<b>Operating pressure range <sup>(3)</sup></b>		-100 kPa to 1 MPa
<b>Proof pressure</b>		3 MPa
<b>Ambient and fluid temperature</b>		-5 to 60°C (Water: 0 to 40°C) (No freezing)
<b>Thread</b>	<b>Mounting section</b>	ANSI/ASME B1.20.1 (NTP thread), JIS B0208 (UNF thread)
	<b>Nut section</b>	JIS B0208 (UNF thread)
<b>Seal on the threads (Standard)</b>		With sealant
<b>Copper-free (Standard)</b>		Brass parts are all electroless nickel plated.



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

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

### Principal Parts Material

Body	Stainless steel 303, C3604, PBT
Stud	C3604 (Thread portion)
Chuck, Guide 2	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR
Guide, Guide 1	PBT

## Model

### Hex. socket head male connector

KJS P.30



Internal hex. allows thread connection by using an allen wrench for confined spaces.

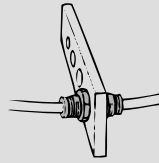


### Bulkhead union

KJE P.35



Use to connect tubes through a panel.

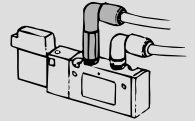


### Extended male elbow

KJW P.32



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



### Male connector

KJH P.30



Use to pipe in the same direction from female thread. Most general style.

### Female connector

KJF P.30



Use to pipe from male thread such as pressure gauge.

### Straight union

KJH P.30



Use to connect tubes in the same direction.

### Different diameter straight

KJH P.31



Use to connect different sized tubes.

### Male elbow

KJL P.31



Use to pipe at right angles to female thread. Most general styles.

### Union elbow

KJL P.31



Use to connect tubes at right angles.

### Plug-in elbow

KJL P.31



Use to change by 90° in a tube fetching direction from One-touch fittings.

### Reducer elbow

KJL P.32



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

### Male branch tee

KJT P.32



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

### Union tee

KJT P.33



Use to connect tubes in both 90° directions.

### Different diameter tee

KJT P.33



Use to connect tubes with size down in both 90° directions.

### Male run tee

KJY P.33



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

### Union "Y"

KJU P.34



Use to branch line in the same direction.

### Different dia. union "Y"

KJU P.34



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

### Plug-in "Y"

KJU P.34



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

### Different diameter plug-in "Y"

KJX P.34



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

### Branch "Y"

KJU P.35



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

### Plug-in reducer

KJR P.35



Use to size down One-touch fittings.

## ⚠ Precautions

Be sure to read before handling.

Refer to front matters 58 and 59 for Safety Instructions and pages 13 to 16 for Fittings and Tubing Precautions.

### ⚠ Caution

1. Please do not attach metal rods or metal pipes. Metal rods or pipes cannot be secured and the fittings will shoot out. Also, if tubes are attached after metal rods or pipes have been attached, the tubes will not hold and may come loose.

### Installation and Removal of One-touch Mini Fittings

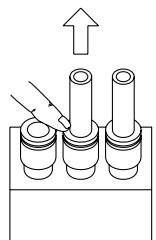
#### ⚠ Caution

##### Installing of tube

1. Cut the tube perpendicularly, using caution not to damage its surface. (Use tube cutter "TK-1", "TK-2" or "TK-3". Do not cut the tube with cutting pliers, nippers, scissors, etc.)
2. Grasp the tube, then slowly push it until it comes to a stop.
3. Then, pull it back gently to make sure that it does not come out.

##### Removing of tube

1. While pushing down on the rim of the release button, pull out the tube in the direction of the arrow. (See illustration.) The release button can also be pushed down with a flat-head screwdriver. However, be careful not to break or damage the release button.
2. To reuse the released tube, cut off the damaged portion of the tube.



# Series KJ

## Male Connector: KJH

<10-32 UNF>



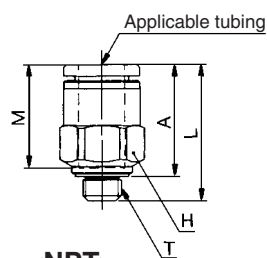
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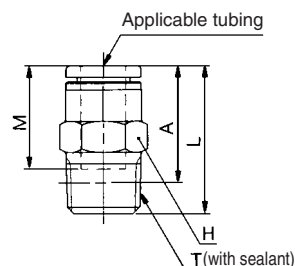
Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	L	A*	M	Max. port size	Mass (g)
1/8	10-32UNF	KJH01-32	7	16.7	13.6	12.7	2.3	2
	1/16	KJH01-33S	9.5	18.8	14.8		2.5	5
	1/8	KJH01-34S	11.11	12.9	9.8		2.5	4.7
5/32	10-32UNF	KJH03-32	8	17	13.9	12.7	2.3	2.4
	1/16	KJH03-33S	9.5	19.5	15.5		3	4.7
	1/8	KJH03-34S	11.11	13.9	10.8		3	4.6
1/4	10-32UNF	KJH07-32	11.11	18.4	15.3	13.6	2.3	3.3
	1/16	KJH07-33S		22	18		3.5	6.2
	1/8	KJH07-34S		17.5	14.4		4.6	5.2

\* Reference dimensions after NPT thread installation.

<10-32 UNF>



<NPT>



## Hexagon Socket Head Male Connector: KJS

<10-32 UNF>



<NPT>

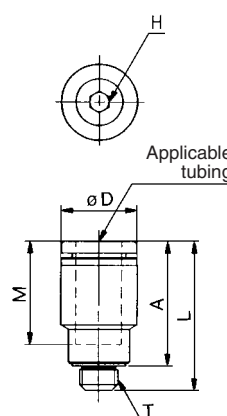


Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) øD	L	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	KJS01-32	2	7	19.7	16.6	12.7	2	2.8
5/32	10-32UNF	KJS03-32	2.5	8	18.7	15.6	12.7	2.5	2.7
	1/16	KJS03-33S	2.78		19.6	15.6		2.8	4
	1/8	KJS03-34S	10.3		20.1	16.1		4.8	5.2
1/4	10-32UNF	KJS07-32	2.5	10.3	19.6	16.5	13.6	2.5	3.3
	1/16	KJS07-33S	3.57		21.1	17.1		3.6	5.8
	1/8	KJS07-34S	4.76		20.1	16.1		4.8	5.2

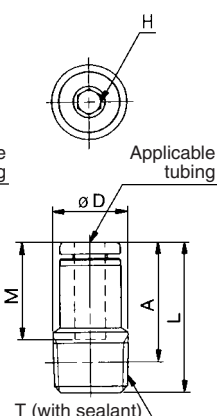
\* Reference dimensions after NPT thread installation.

Note) øD: Max. diameter

<10-32 UNF>



<NPT>

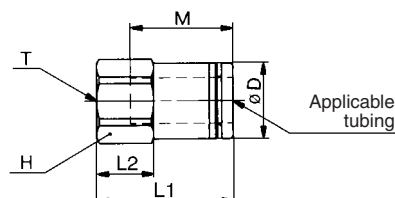


## Female Connector: KJF



Applicable tubing O.D. (inch)	Connection thread (T) UNF	Model	H (Width across flats)	Note) øD	L1	L2	M	Min. port size	Mass (g)
1/8	10-32UNF	KJF01-32	7	6.9	18.8	7.9	12.7	2.5	2.8
5/32	10-32UNF	KJF03-32	8	7.9	18.7	7.8	12.7	3	3.8
1/4	10-32UNF	KJF07-32	11.11	10.3	18	7.5	13.6	4	5.3

Note) øD: Max. diameter

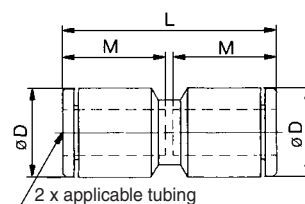


## Straight Union: KJH



Applicable tubing O.D. (inch)	Model	Note) øD	L	M	Min. port size	Mass (g)
1/8	KJH01-00	8.4	26.3	12.7	2.5	1.4
5/32	KJH03-00	9.3	26.3	12.7	3	1.7
1/4	KJH07-00	12	28.1	13.6	4.6	2.6

Note) øD: Max. diameter

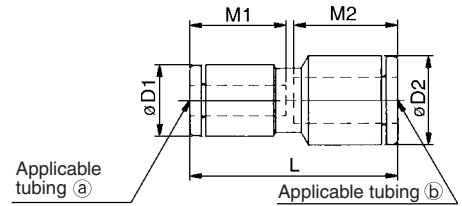


## Different Diameter Straight: KJH



Applicable tubing O.D. (inch)		Model	Note) øD1	Note) øD2	L	M1	M2	Max. port size	Mass (g)
(a)	(b)								
1/8	5/32	KJH01-03	8.4	9.3	26.3	12.7	12.7	2.5	1.6
	1/4	KJH01-07		12	27.2		13.6		2.1
5/32		KJH03-07	9.3	12	27.2	12.7	13.6	3	2.3

Note) øD1, øD2: Max. diameter



## Male Elbow: KJL

<10-32 UNF>

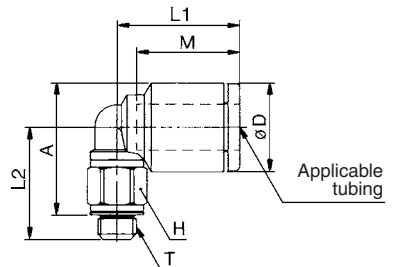


Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) øD	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	KJL01-32	7			13.2	14.3		2.3	2.5
	1/16	KJL01-33S	9.5	8.4	15.3	16.4	16.6	12.7	2.5	5.9
	1/8	KJL01-34S	11.11			14.5	15.6			6.7
5/32	10-32UNF	KJL03-32	7			13.7	15.3		2.3	2.7
	1/16	KJL03-33S	9.5	9.3	15.6	16.9	17.6	12.7	2.5	4.5
	1/8	KJL03-34S	11.11			15	16.6			6.8
1/4	10-32UNF	KJL07-32	7			15.1	18		2.3	3.2
	1/16	KJL07-33S	9.5	12	16.1	18.3	20.3	13.6	2.5	5.3
	1/8	KJL07-34S	11.11		17.8	16.4	19.3		4.6	6.4

\* Reference dimensions after NPT thread installation.

Note) øD: Max. diameter

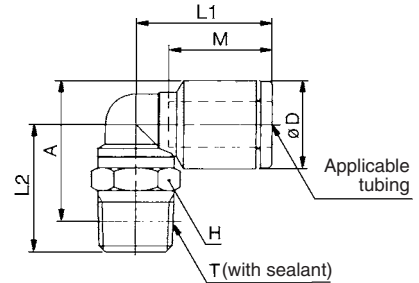
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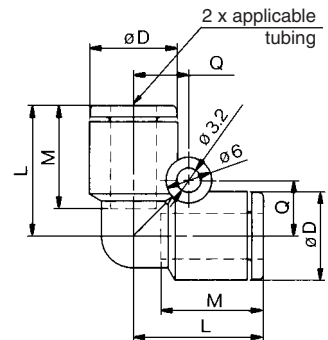


## Union Elbow: KJL



Applicable tubing O.D. (inch)	Model	Note) øD	L	Q	M	Min. port size	Mass (g)
1/8	KJL01-00	8.4	15	5.8	12.7	2.5	1.6
5/32	KJL03-00	9.3	15.8	6.3	12.7	3	2
1/4	KJL07-00	12	17.4	7.6	13.6	4.6	3.3

Note) øD: Max. diameter

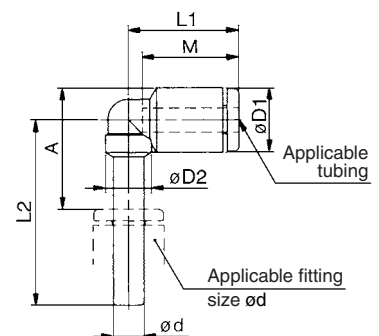


## Plug-in Elbow: KJL



Applicable tubing O.D. (inch)	Applicable fitting size ød (inch)	Model	Note) øD1	Note) øD2	L1	L2	A	M	Min. port size	Mass (g)
1/8	1/8	KJL01-99	8.4	6	14.5	23.8	15.3	12.7	2.2	1
5/32	5/32	KJL03-99	9.3	6	15.6	24.7	16.7	12.7	2.5	1.2
1/4	1/4	KJL07-99	12	7.6	16.7	27	19.4	13.6	4.6	2.1

Note) øD1: Max. diameter



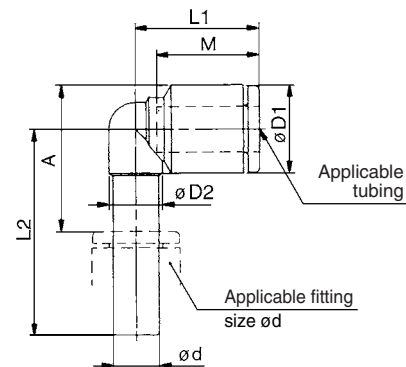
# Series KJ

## Reducer Elbow: KJL



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Min. port size	Mass (g)
1/8	5/32	KJL01-03	8.4	6	14.5	24.3	15.8	12.7	2.2	1.1
	1/4	KJL01-07		6.35	14.7	25.8	16.4		2.2	1.3
5/32	1/4	KJL03-07	9.3	6.35	14.9	26.2	17.3	12.7	2.5	1.5

Note)  $\phi D1$ : Max. diameter



## Extended Male Elbow: KJW

<10-32 UNF>



Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) $\phi D$	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	KJW01-32	7	8.4	15.3	26.2	27.3	12.7	2.3	6.2
	1/16	KJW01-33S	9.5			29.4	29.6		2.5	11.5
	1/8	KJW01-34S	11.11			24.8	25.9		2.5	13.4
5/32	10-32UNF	KJW03-32	7	9.3	15.6	26.7	28.3	12.7	2.3	6.4
	1/16	KJW03-33S	9.5			29.9	30.6		2.5	11.7
	1/8	KJW03-34S	11.11			25.3	26.9		2.5	13.6
1/4	10-32UNF	KJW07-32	7	12	16.1	28.1	31	13.6	2.3	6.9
	1/16	KJW07-33S	9.5			31.3	33.3		2.5	10.7
	1/8	KJW07-34S	11.11			17.8	29.4		4.6	13.2

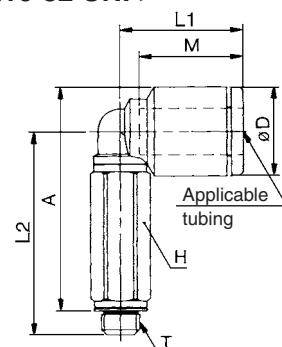
\* Reference dimensions after NPT thread installation.

Note)  $\phi D$ : Max. diameter

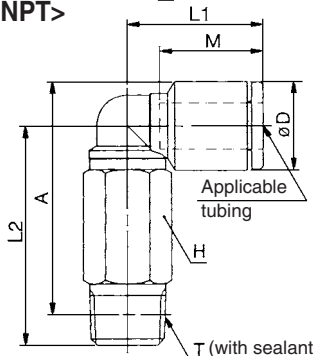
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<10-32 UNF>



<NPT>



## Male Branch Tee: KJT

<10-32 UNF>



Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) $\phi D$	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	KJT01-32	7	8.4	15.3	13.2	14.3	12.7	2.3	3.2
	1/16	KJT01-33S	9.5			16.4	16.6		2.5	6.6
	1/8	KJT01-34S	11.11			14.5	15.6		2.5	7.4
5/32	10-32UNF	KJT03-32	7	9.3	15.6	13.7	15.3	12.7	2.3	3.5
	1/16	KJT03-33S	9.5			16.9	17.6		2.5	6.9
	1/8	KJT03-34S	11.11			15	16.6		2.5	7.7
1/4	10-32UNF	KJT07-32	7	12	16.1	15.1	18	13.6	2.3	4.4
	1/16	KJT07-33S	9.5			18.3	20.3		2.5	6.8
	1/8	KJT07-34S	11.11			17.8	16.4		4.6	7.6

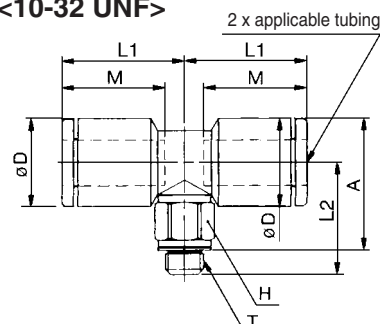
\* Reference dimensions after NPT thread installation.

Note)  $\phi D$ : Max. diameter

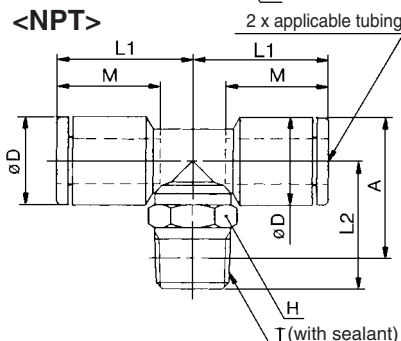
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<10-32 UNF>



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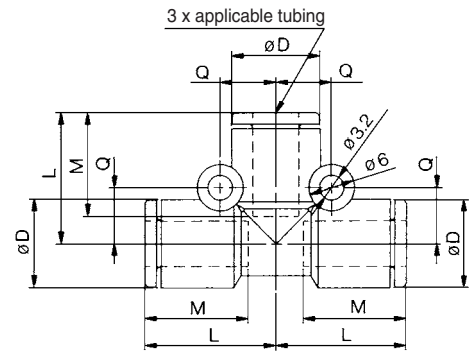


## Union Tee: KJT



Applicable tubing O.D. (inch)	Model	Note) $\phi D$	L	Q	M	Min. port size	Mass (g)
1/8	<b>KJT01-00</b>	8.4	15	5.8	12.7	2.5	2.5
5/32	<b>KJT03-00</b>	9.3	15.8	6.3	12.7	3	3
1/4	<b>KJT07-00</b>	12	17.4	7.6	13.6	4.6	4.8

Note)  $\phi D$ : Max. diameter

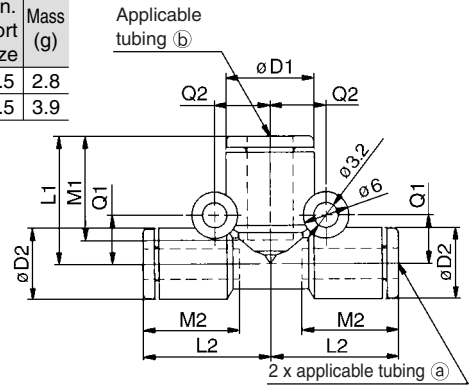


## Different Diameter Tee: KJT



Applicable tubing O.D. (inch)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	Q1	Q2	M1	M2	Min. port size	Mass (g)
a	b											
1/8	5/32	<b>KJT01-03</b>	9.3	8.4	15.3	15.8	5.8	6.3	12.7	12.7	2.5	2.8
5/32	1/4	<b>KJT03-07</b>	12	9.3	16.4	16.8	6.3	7.6	13.6	12.7	2.5	3.9

Note)  $\phi D1$ ,  $\phi D2$ : Max. diameter



## Male Run Tee: KJY

<10-32 UNF>

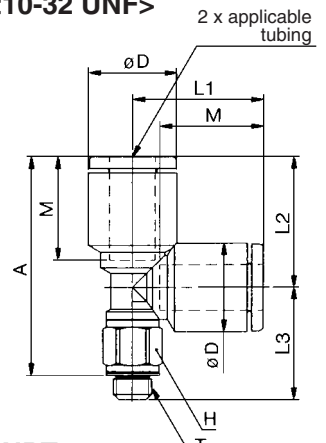


Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) $\phi D$	L1	L2	L3	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	<b>KJY01-32</b>	7	8.4	15.4	14.8	13.2	24.9	12.7	2.3	3.2
	1/16	<b>KJY01-33S</b>	9.5								
	1/8	<b>KJY01-34S</b>	11.11								
5/32	10-32UNF	<b>KJY03-32</b>	7	9.3	15.6	14.8	13.7	25.4	12.7	2.3	3.5
	1/16	<b>KJY03-33S</b>	9.5								
	1/8	<b>KJY03-34S</b>	11.11								
1/4	10-32UNF	<b>KJY07-32</b>	7	12	17.6	17.6	15.1	29.6	13.6	2.3	4.5
	1/16	<b>KJY07-33S</b>	9.5								
	1/8	<b>KJY07-34S</b>	11.11								

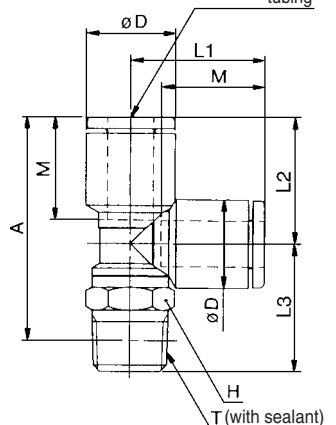
\* Reference dimensions after NPT thread installation.

Note)  $\phi D$ : Max. diameter

<10-32 UNF>



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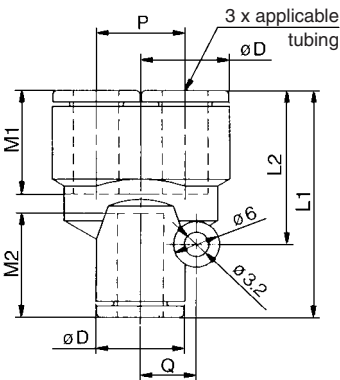
# Series KJ

## Union “Y”: KJU



Applicable tubing O.D. (inch)	Model	Note) $\phi D$	L1	L2	P	Q	M1	M2	Min. port size	Mass (g)
1/8	KJU01-00	8.4	28.5	19	8.4	5.8	12.7	12.9	2.5	2.6
5/32	KJU03-00	9.3	27.9	18.3	9.3	6.3	12.7	12.9	3	3
1/4	KJU07-00	12	32.3	22.7	12	7.6	13.6	13.8	4.6	5

Note)  $\phi D$ : Max. diameter

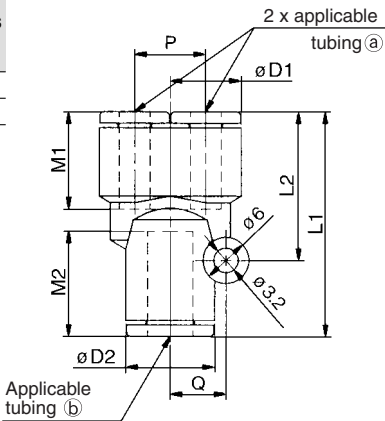


## Different Diameter. Union “Y”: KJU



Applicable tubing O.D. (inch)		Model	Note) ø D1	Note) ø D2	L1	L2	P	Q	M1	M2	Min. port size	Mass (g)
(a)	(b)											
1/8	5/32	KJU01-03	8.4	9.3	27.5	18.3	8.4	6.3	12.7	12.9	2.5	2.7
5/32	1/4	KJU03-07	9.3	12	30.4	20.6	9.3	7.6	12.7	13.8	3	3.9

Note)  $\phi D1$ ,  $\phi D2$ : Max. diameter

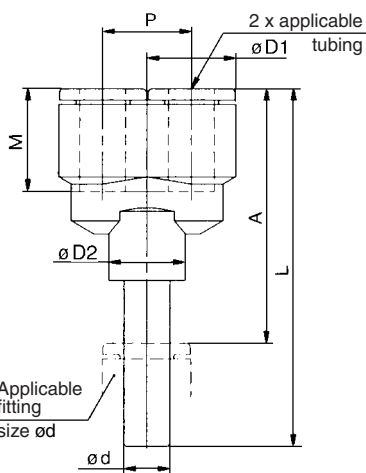


## Plug-in “Y”: KJU



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L	P	A	M	Min. port size	Mass (g)
1/8	1/8	KJU01-99	8.4	10	43.5	8.4	34.1	12.7	2.5	2.7
5/32	5/32	KJU03-99	9.3	10	44.7	9.3	35.3	12.7	3	3.2
1/4	1/4	KJU07-99	12	10	49.9	12	39.6	13.6	4.6	4.7

Note)  $\phi D1$ : Max. diameter

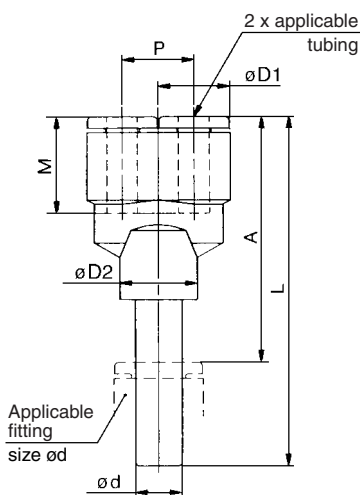


## Different Diameter Plug-in “Y”: KJX



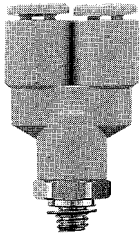
Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L	P	A	M	Min. port size	Mass (g)
1/8	5/32	KJX01-03	8.4	10	44	8.4	34.6	12.7	2.5	2.8
5/32	1/4	KJX03-07	9.3	10	45.7	9.3	35.4	12.7	3	3.6

Note)  $\phi D1$ : Max. diameter



## Branch "Y": KJU

<10-32 UNF>



Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	(Note) øD1	øD2	L	P	A*	M	Min. port size	Mass (g)
1/8	10-32UNF	KJU01-32	11.11	8.4	10	30.6	8.4	27.5	12.7	1.8	5.9
	1/16	KJU01-33S				34.1		30.1		2.5	8.1
	1/8	KJU01-34S				33.2				8.3	
5/32	10-32UNF	KJU03-32	11.11	9.3	10	31.3	9.3	28.2	12.7	1.8	6.4
	1/16	KJU03-33S				34.8		30.8		3.5	8.8
	1/8	KJU03-34S				33.9				8.8	
1/4	10-32UNF	KJU07-32	11.11	12	10	35.5	12	32.4	13.6	2.3	7.4
	1/16	KJU07-33S				39		35		3.5	10
	1/8	KJU07-34S				38.1				4.6	10

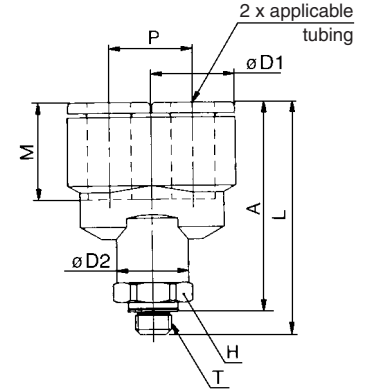
\* Reference dimensions after NPT thread installation.

Note) øD1: Max. diameter

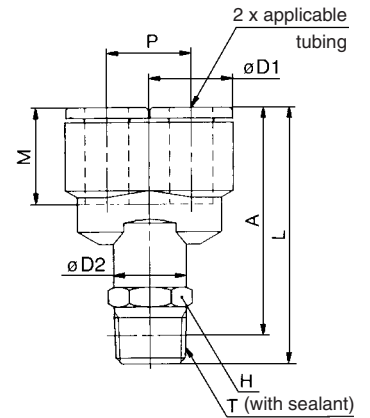
<NPT>



<UNF 10-32>



<NPT>

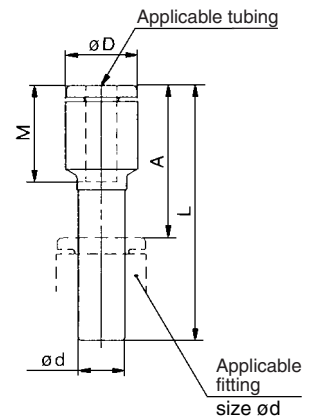


## Plug-in Reducer: KJR



Applicable tubing O.D. (inch)	Applicable fitting size ød (inch)	Model	Note) øD	L	A	M	Min. port size	Mass (g)
1/8	5/32	KJR01-03	8.4	32	19.3	12.7	2.5	0.9
	1/4	KJR01-07		33	19.4		2.5	1.2
5/32	1/4	KJR03-07	9.3	33.5	19.9	12.7	3	1.4

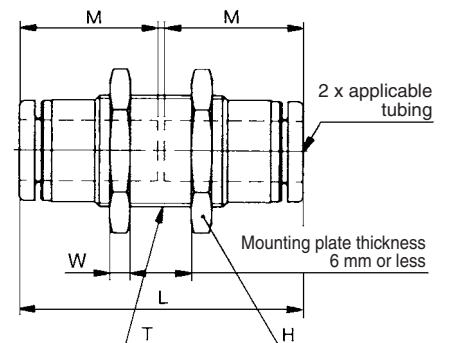
Note) øD: Max. diameter



## Bulkhead Union: KJE



Applicable tubing O.D. (inch)	Model	Connection thread (T) UNF	H (Width across flats)	L	Mounting hole	M	W	Min. port size	Mass (g)
1/8	KJE01-00	3/8 -24	12.7	26	10.5	12.7	2.8	2.5	8.1
5/32	KJE03-00	3/8 -24	12.7	26	10.5	12.7	2.8	3	
1/4	KJE07-00	1/2 -20	15.88	27.8	14	13.6	3.5	4.6	15.7







## 1 Grease-free Specifications

Symbol	Specifications
<b>X17</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
<b>X39</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double package)
<b>X94</b>	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

## 2 Other Specifications

Symbol	Specifications
<b>X12</b>	Lubricant: White Vaseline Release button color: White
<b>X34</b>	Rubber material: FKM
<b>X41</b>	With fixed throttle <small>Note)</small>

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

## Spare Parts

Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-10/32G	10-32 UNF	Stainless steel 304, NBR	—
Pipe nut	KJ01-P01	—	—	KJE01-00, KJE03-00
	KJ07-P01	—	—	KJE07-00

# Inch-size One-touch Fittings

## Series KQ2

Applicable Tubing: Inch Size  
Connection Thread: UNF, NPT

### How to Order

**KQ 2 H 05 - 34 S -**

One-touch fittings

Product's color

Symbol	Body	Release button
2	White	Orange
Nil	Black	Red

Applicable tubing O.D.

01	ø 1/8"
03	ø 5/32"
05	ø 3/16"
07	ø 1/4"
09	ø 5/16"
11	ø 3/8"
13	ø 1/2"

Port size/Applicable tubing O.D.

Thread connection	Tubing (Rod) connection
32	10-32 UNF
33	NPT 1/16
34	NPT 1/8
35	NPT 1/4
36	NPT 3/8
37	NPT 1/2
00	Same dia. tubing
99	Same dia. rod
01	ø 1/8"
03	ø 5/32"
05	ø 3/16"
07	ø 1/4"
09	ø 5/16"
11	ø 3/8"
13	ø 1/2"

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

With thread sealant (Male thread)

Nil	None
S	With thread sealant

Note) Port size with sealant: Only  
NPT 1/16  
NPT 1/8  
NPT 1/4  
NPT 3/8  
NPT 1/2

#### Model

H	Male connector
	Straight
	Different dia. straight *
S	Hexagon socket head male connector *
F	Female union *
L	Male elbow
	Elbow
	Plug-in elbow
	Reducer 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
	Male branch tee
T	Union tee
	Different dia. tee *
TW	Cross union *
Y	Male run tee
	Branch "Y"
	Union "Y"
U	Plug-in "Y"
	Different dia. union "Y" *
X	Different dia. plug-in "Y" *
R	Plug-in reducer
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead union elbow *



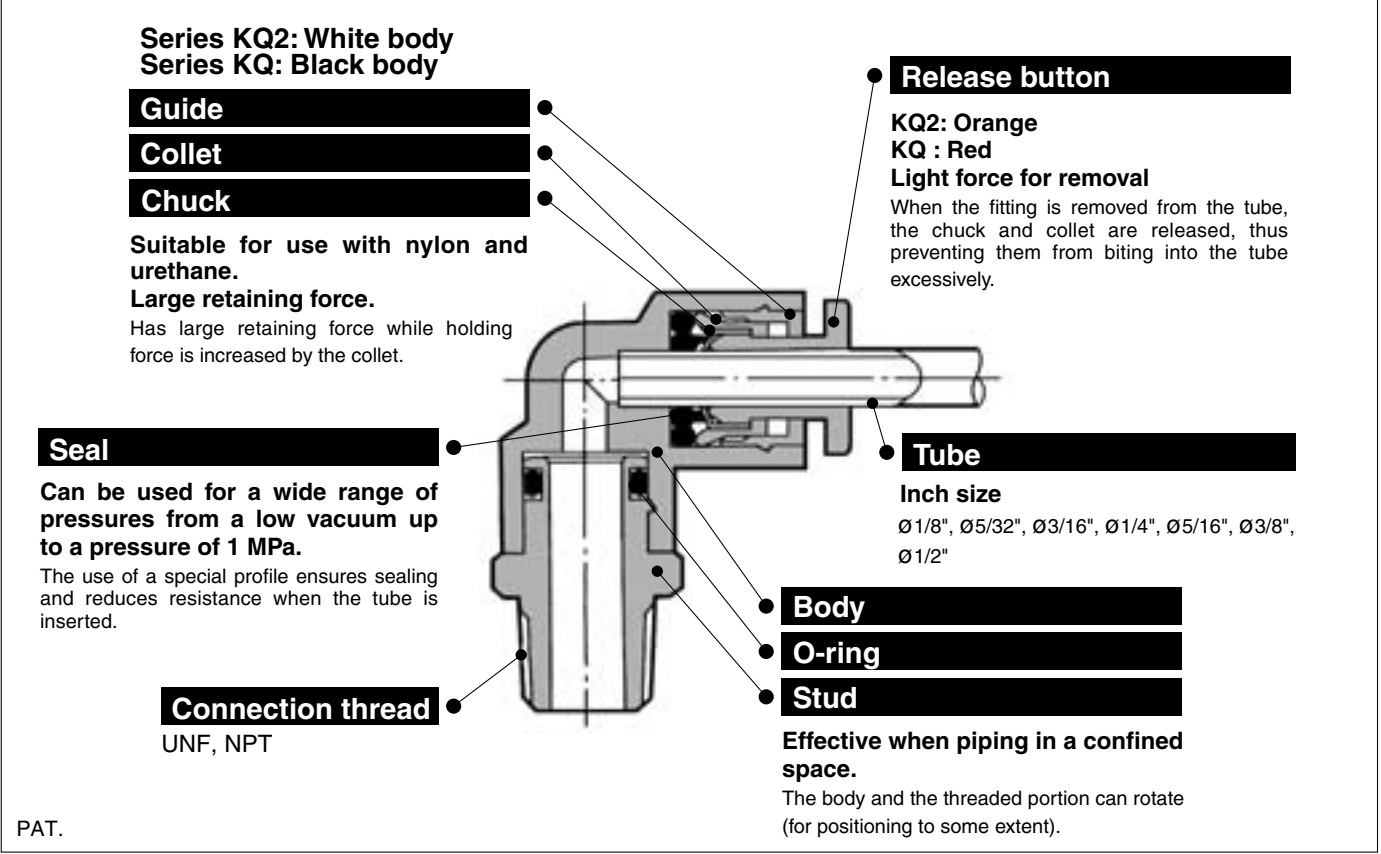
\* Available only for KQ2 (White color body).

#### Accessory

Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Tube cap
KQ2P (KQP)	Plug (Orange)

Use the below part number to order the gasket for sealing 10-32 UNF thread.

Gasket for 10-32 UNF: M-10/32G



- ☐ K
- ☐ M
- ☐ H
- ☐ KK
- ☐ D
- ☐ MS
- ☐ LQ
- ☐ MQR
- ☐ T



**Product's Color**

Series	Body	Release button
Series KQ2	White	Orange
Series KQ	Black	Red



**Made to Order**  
Refer to page 75 for details.

**Applicable Tubing**

Tubing material	FEP, PFA, Nylon, Soft nylon <sup>(1)</sup> , Polyurethane
Tubing O.D.	Ø 1/8", Ø 5/32", Ø 3/16", Ø 1/4", Ø 5/16", Ø 3/8", Ø 1/2"

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

**Specifications**

<b>Fluid</b>		Air/Water <sup>(2)</sup>
<b>Operating pressure range <sup>(3)</sup></b>		-100 kPa to 1 MPa
<b>Proof pressure</b>		3 MPa
<b>Ambient and fluid temperature</b>		-5 to 60°C, Water: 0 to 40°C (No freezing)
<b>Thread</b>	<b>Mounting section</b>	ANSI/ASME B1.20.1 (NPT thread) JIS B0208 (UNF thread)
	<b>Nut section</b>	JIS B0208 (UNF thread)
<b>Seal on the threads</b>		With sealant or none



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

**Principal Parts Material**

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

# Series KQ2

## Model

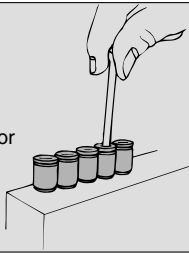
### Hex. socket head male connector

KQ2S

P. 64



Internal hex. allows thread connection by using an allen wrench for confined spaces.



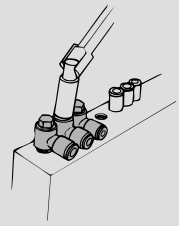
### Universal male elbow

KQ2V

P. 66



Universal male elbow allows thread connection by using a socket wrench for confined spaces.



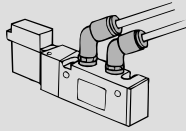
### 45° male elbow

KQ2K

P. 66



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



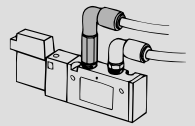
### Extended male elbow

KQ2W

P. 70



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



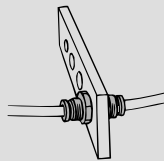
### Bulkhead union

KQ2E

P. 73



Use to connect tubes through a panel.



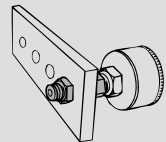
### Bulkhead connector

KQ2E

P. 74



Use to connect male thread and tube through a panel.



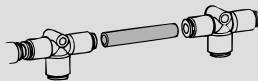
### Nipple

KQ2N

P. 74



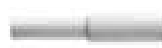
Use to connect One-touch fittings.



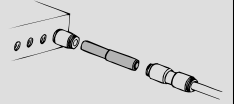
### Reducer nipple

KQ2N

P. 74



Use to connect One-touch fittings that are different tubing O.Ds.



### Male connector

KQ2H

P. 64



Use to pipe in the same direction from female thread. Most general style.

### Hexagon socket head universal male elbow

KQ2VS

P. 66



Hex. on the top allows thread connection by using an allen wrench for confined spaces.

### Branch universal male elbow

KQ2Z

P. 68



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

### Female connector

KQ2F

P. 64



Use to pipe from male thread such as pressure gauge.

### Universal female elbow

KQ2VF

P. 67



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

### Double branch universal male elbow

KQ2ZD

P. 68



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

### Straight union

KQ2H

P. 65



Use to connect tubes in the same direction.

### Female elbow

KQ2LF

P. 67



Use to pipe at right angles to male thread.

### Triple branch universal male elbow

KQ2ZT

P. 69

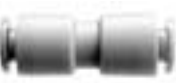


Use to six-branch line at right angles from female thread. Three individual parts rotate 360°.

### Different diameter straight

KQ2H

P. 65



Use to connect different sized tubes.

### Double universal male elbow

KQ2VD

P. 67



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

### Union elbow

KQ2L

P. 69



Use to connect tubes at right angles.

### Male elbow

KQ2L

P. 65



Use to pipe at right angles to female thread. Most general style.

### Triple universal male elbow

KQ2VT

P. 68



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

### Plug-in elbow

KQ2L

P. 69



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

**Reducer elbow**  
**KQ2L**

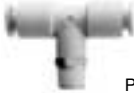


P. 69

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

**Male branch tee**

**KQ2T**



P. 70

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

**Union tee**

**KQ2T**



P. 70

Use to connect tubes in both 90° directions.

**Different diameter tee**

**KQ2T**



P. 71

Use to connect tubes with size down in both 90° directions.

**Cross**

**KQ2TW**



P. 71

Use to four-branch line.

**Male run tee**

**KQ2Y**



P. 71

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

**Branch "Y"**

**KQ2U**



P. 72

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

**Union "Y"**

**KQ2U**



P. 72

Use to branch line in the same direction.

**Different dia. union "Y"**

**KQ2U**



P. 72

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

**Plug-in "Y"**

**KQ2U**



P. 72

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

**Different diameter plug-in "Y"**

**KQ2X**



P. 73

Use to four-branch line from One-touch fitting with size down.

**Plug-in reducer**

**KQ2R**



P. 73

Use to change size of One-touch fittings.

**Bulkhead male elbow**

**KQ2LE**



P. 73

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

**Tube cap**

**KQ2C**



P. 74

Use to plug unused tube.

**Plug**

**KQ2P, KQP**



P. 74

Use to plug unused One-touch fittings. KQP (Orange) KQ2P (Orange)

- K** ☐
- M** ☐
- H** ☐
- KK** ☐
- D** ☐
- MS** ☐
- LQ** ☐
- MQR** ☐
- T** ☐

# Series KQ2

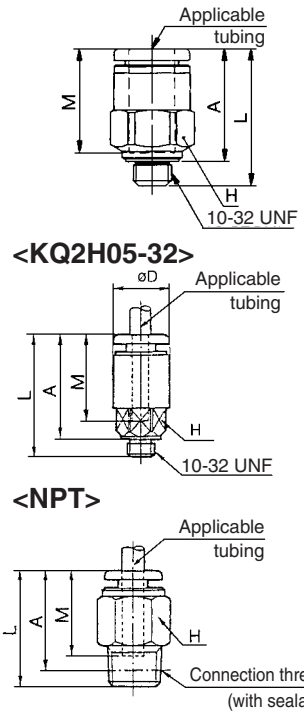
## Male Connector: KQ2H



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD	L	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2H01-32	7	—	16.7	13.7	12.7	2.3	2
	1/16	KQ2H01-33S	11.11	—	22	18	15.5	2.5	7
	1/8	KQ2H01-34S	—	—	21.1	—	—	—	9
	1/4	KQ2H01-35S	14.29	—	19	13.5	—	—	16
5/32	10-32 UNF	KQ2H03-32	8	—	17	14	12.7	2.3	2.4
	1/16	KQ2H03-33S	11.11	—	22	18	16	3	7
	1/8	KQ2H03-34S	—	—	21.1	—	—	—	9
	1/4	KQ2H03-35S	14.29	—	19	13.5	—	—	16
3/16	10-32 UNF	KQ2H05-32	8	11	24	20.4	16.5	2.3	6
	1/8	KQ2H05-34S	12.7	—	21.1	18	—	3.5	11
	1/4	KQ2H05-35S	14.29	—	20.5	15	—	—	12
	10-32 UNF	KQ2H07-32	11.11	—	18.4	15.4	13.6	2.3	3.3
1/4	1/8	KQ2H07-34S	12.7	—	21.6	18.5	17	4.6	10
	1/4	KQ2H07-35S	14.29	—	22.5	17	—	—	15
	3/8	KQ2H07-36S	17.46	—	20.9	16.5	—	—	27
	1/8	KQ2H09-34S	14.29	—	27.6	24.5	18.5	6	15
5/16	1/4	KQ2H09-35S	—	—	26	20.5	—	—	16
	3/8	KQ2H09-36S	17.46	—	20.9	15.5	—	—	24
	1/8	KQ2H11-34S	—	—	29.6	26.5	21	6	29
	1/4	KQ2H11-35S	17.46	—	33	27.5	—	—	31
3/8	3/8	KQ2H11-36S	—	—	27.9	22.5	—	7	29
	1/2	KQ2H11-37S	22.23	—	25.6	18.5	—	—	46
	1/4	KQ2H13-35S	—	—	34	28.5	22	9	44
	3/8	KQ2H13-36S	22.23	—	31.9	26.5	—	9.6	44
1/2	1/2	KQ2H13-37S	—	—	29.1	22	—	—	44

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

01-32  
KQ2H03-32  
07-32

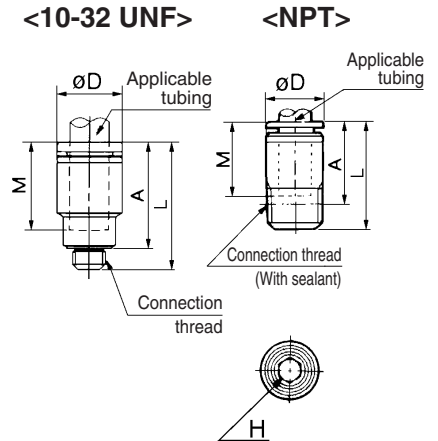


## Hexagon Socket Head Male Connector: KQ2S



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD	L	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2S01-32	2	7	19.7	16.6	12.7	2	2.8
5/32	10-32 UNF	KQ2S03-32	2.5	8	18.7	15.6	12.7	2.3	2.7
	1/8	KQ2S03-34S	2.78	10.5	23.5	19.5	16	2.8	8
3/16	1/8	KQ2S05-34S	3.57	10.7	23.5	19.5	16.5	3.6	8
	10-32 UNF	KQ2S07-32	2.5	10.3	19.6	16.5	13.6	2.3	3.3
1/4	1/8	KQ2S07-34S	—	12.5	22	18	—	—	7
	1/4	KQ2S07-35S	4.76	13.8	23	17	17	4.9	12
	3/8	KQ2S07-36S	—	17	27	21	—	—	27
	1/8	KQ2S09-34S	5.56	14	28	24	18.5	5.7	12
5/16	1/4	KQ2S09-35S	6.35	—	25.5	19.5	—	6.5	11
	3/8	KQ2S09-36S	—	17.5	27.5	21	—	—	25
	1/8	KQ2S11-34S	5.56	16.5	30	26	21	5.7	17
	1/4	KQ2S11-35S	—	16.5	32	26	—	—	21
3/8	3/8	KQ2S11-36S	6.35	17.2	29	23	21	6.5	25
	1/2	KQ2S11-37S	—	21.3	30	22	—	—	45
	1/4	KQ2S13-35S	7.94	20	34.5	28.5	22	8	26
	3/8	KQ2S13-36S	—	—	33	26.5	—	—	27
1/2	1/2	KQ2S13-37S	9.53	21.3	31	22.5	22	9.6	36

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

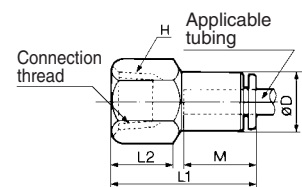


## Female Connector: KQ2F



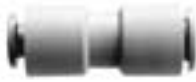
Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD	L1	L2	M	Min. port size	Mass (g)
1/8	1/8	KQ2F01-34	14.29	9.2	26.5	11.5	15.5	2.5	16
	1/4	KQ2F01-35	17.46		30.5	14.5			26
5/32	1/8	KQ2F03-34	14.29	10	27	11	16	3	15
	1/4	KQ2F03-35	17.46		31	13.5			24
1/4	1/8	KQ2F07-34	14.29	12.5	27.5	10.5	17	4.6	17
	1/4	KQ2F07-35	17.46		31	13.5			25
	3/8	KQ2F07-36	22.23		33.5	15.5			44
	1/8	KQ2F09-34	14.29		29	10.5			18
5/16	1/4	KQ2F09-35	17.46	14	32.5	13.5	18.5	6	26
	3/8	KQ2F09-36	22.23		34.5	13			38
	1/4	KQ2F11-35	17.46		34.5	15			30
	3/8	KQ2F11-36	22.23		36.5	15			48
3/8	1/2	KQ2F11-37	23.81	16.5	40.5	19	21	7	52
	3/8	KQ2F13-36	22.23		36.5	14.5			48
	1/2	KQ2F13-37	23.81		41	18.5			53
	1/2	KQ2F13-37	23.81		41	18.5			53

Note) øD: Max. diameter



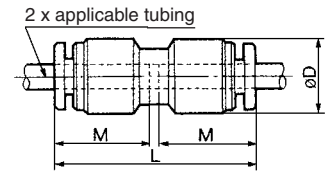


## Straight Union: KQ2H

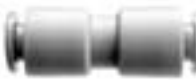


Applicable tubing O.D. (inch)	Model	Note) øD	L	M	Min. port size	Mass (g)
1/8	KQ2H01-00	9.6	31.5	15.5	2.5	3
5/32	KQ2H03-00	10.4	32.5	16	3	3
3/16	KQ2H05-00	11.4	34	16.5	3.5	4
1/4	KQ2H07-00	13.2	34.5	17	4.6	4
5/16	KQ2H09-00	15.2	38.5	18.5	6	6
3/8	KQ2H11-00	17.9	42.5	21	7	11
1/2	KQ2H13-00	21.7	44.5	22	9.6	16

Note) øD: Max. diameter

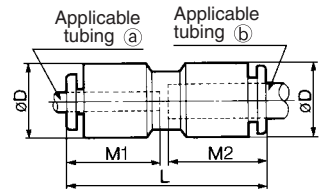


## Different Diameter Straight: KQ2H



Applicable tubing O.D. (inch)		Model	Note) øD	L	M1	M2	Min. port size	Mass (g)
(a)	(b)							
1/8	5/32	KQ2H01-03	10.4	32.5	15.5	16	2.5	3
	1/4	KQ2H01-07	13.2	34.5	17	17	2.5	5
5/32	3/16	KQ2H03-05	11.4	34	16	16.5	3	4
	1/4	KQ2H03-07	13.2	34.5	17	17	3	4
3/16	1/4	KQ2H05-07	13.2	34.5	16.5	17	3.5	5
	5/16	KQ2H07-09	15.2	38.5	17	18.5	4.6	6
1/4	3/8	KQ2H07-11	17.9	42	21	21	6	11
	5/16	KQ2H09-11	17.9	42	18.5	21	6	11
5/16	3/8	KQ2H09-11	17.9	42	18.5	21	6	11
	1/2	KQ2H09-13	21.7	44	22	22	6	16
3/8	1/2	KQ2H11-13	21.7	44	21	22	7	17

Note) øD: Max. diameter



## Male Elbow: KQ2L

01-32  
KQ2L03-32  
07-32



<KQ2L05-32>



<NPT>

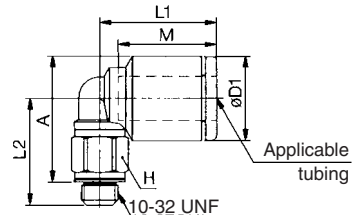


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2L01-32	7	8.4	—	15.3	13.2	14.5	12.7	2.3	2.5
	1/16	KQ2L01-33S	11.11	9.6	10	17.5	21.5	22.5	15.5	2.5	8
	1/8	KQ2L01-34S	14.29	—	—	—	20.6	—	—	—	—
	1/4	KQ2L01-35S	14.29	—	—	—	25	24.5	—	—	18
5/32	10-32 UNF	KQ2L03-32	7	9.3	—	15.6	13.7	15.4	12.7	2.3	2.7
	1/16	KQ2L03-33S	11.11	10.4	10	18	22	23	16	3	8
	1/8	KQ2L03-34S	14.29	—	—	—	21.1	—	—	—	9
	1/4	KQ2L03-35S	14.29	—	—	—	25.5	25	—	—	18
3/16	10-32 UNF	KQ2L05-32	11.11	—	—	—	20	22	—	2.3	5
	1/8	KQ2L05-34S	14.29	11.4	10	19.5	21.6	24	16.5	3.5	10
	1/4	KQ2L05-35S	14.29	—	—	—	26	26	—	—	19
	10-32 UNF	KQ2L07-32	7	12	—	16.1	15.1	18.1	13.6	2.3	3.2
1/4	1/8	KQ2L07-34S	11.11	13.2	10	20.5	22.6	26	17	4.6	10
	1/4	KQ2L07-35S	14.29	—	—	—	27	28	—	—	20
	3/8	KQ2L07-36S	17.46	—	—	—	28.4	30	—	—	32
	1/8	KQ2L09-34S	12.7	15.2	12	23.5	23.6	28	18.5	6	12
5/16	1/4	KQ2L09-35S	14.29	—	—	—	28	30	—	—	20
	3/8	KQ2L09-36S	17.46	—	—	—	29.4	31.5	—	—	28
	1/8	KQ2L11-34S	17.46	17.9	17	25.5	25.6	31.5	21	6	16
	1/4	KQ2L11-35S	22.23	—	—	—	29	32.5	—	—	23
3/8	3/8	KQ2L11-36S	22.23	—	—	—	30.4	34	—	7	33
	1/2	KQ2L11-37S	22.23	—	—	—	34.6	36.5	—	—	59
	1/4	KQ2L13-35S	17.46	21.7	17	28	31	36.5	—	9	28
	3/8	KQ2L13-36S	22.23	—	—	—	32.4	38.5	—	9.6	36
1/2	1/2	KQ2L13-37S	22.23	—	—	—	36.6	40	—	—	62

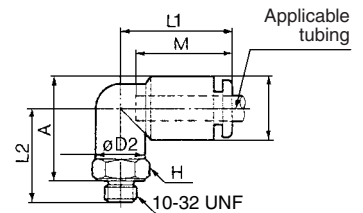
\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter



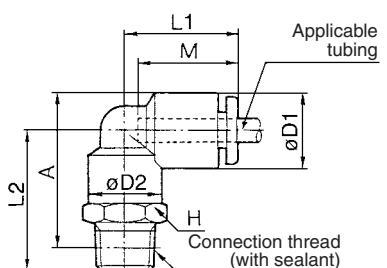
01-32  
KQ2L03-32  
07-32



<KQ2L05-32>



<NPT>



# Series KQ2

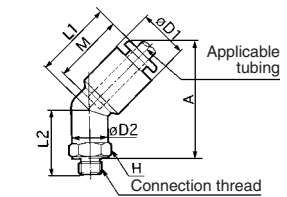
## 45° Male Elbow: KQ2K

<10-32 UNF>

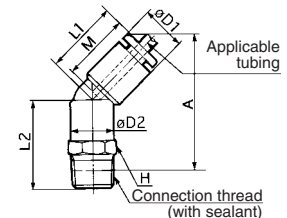
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Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2K01-32	8	9.6	8	16.5	15	25.5	15.5	2.3	4
	1/8	KQ2K01-34S	11.11		10	16.5	21.6	33	15.5	2.5	9
5/32	10-32 UNF	KQ2K03-32	8	10.4	8	17	14.5	26	16	2.3	4
	1/8	KQ2K03-34S	11.11		10	19.6	32			2.8	9
3/16	1/8	KQ2K05-34S	11.11	11.4	10	18	19.6	32.5	16.5	3.6	10
	10-32 UNF	KQ2K07-32	11.11				18	32		2.3	8
1/4	1/8	KQ2K07-34S		13.2	10	19	19.6	34	17	4.6	10
	1/4	KQ2K07-35S	14.29				24	36			19
	3/8	KQ2K07-36S	17.46				25.4	37.5			32
5/16	1/8	KQ2K09-34S	12.7	15.2	12	20.5	21.1	37	18.5	6	11
	1/4	KQ2K09-35S	14.29				25.5	39			19
	3/8	KQ2K09-36S	17.46				26.9	41			32
3/8	1/8	KQ2K11-34S		17.9	17	23.5	23.1	42	21	7	25
	1/4	KQ2K11-35S					26.5	43			25
	3/8	KQ2K11-36S	17.46				27.9	44.5			32
	1/2	KQ2K11-37S					32.1	46.5			58
1/2	1/4	KQ2K13-35S		21.7	17	25.5	27	46.5	22	9.6	27
	3/8	KQ2K13-36S	17.46				28.4	48			35
	1/2	KQ2K13-37S	22.23				32.6	50			61

<10-32 UNF>



<NPT>



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

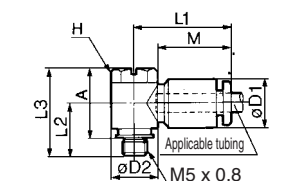
## Universal Male Elbow: KQ2V

<10-32 UNF>

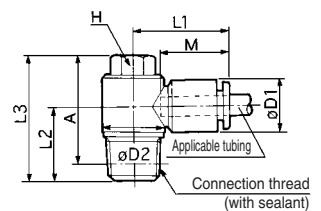
<NPT>

Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Min. port size	Mass (g)	
1/8	10-32 UNF	KQ2V01-32	8	8.4	9.8	17.2	11	18.5	15	12.7	2.3	5	
	1/8	KQ2V01-34S		9.6	13.4	21.5	13.6	25.6	22.5	15.5	2.5	14	
5/32	10-32 UNF	KQ2V03-32	8	10.4	9.8	20.5	11	18.5	15	16	2.3	6	
	1/8	KQ2V03-34S		13.4	22	13.6	25.6	22.5	16		2.8	14	
3/16	1/8	KQ2V05-34S	8	11.4	13.4	23	13.6	25.6	22.5	16.5	3.5	15	
1/4	10-32 UNF	KQ2V07-32	8	13.2	13.4	24	12	24	20.5	17	2.3	13	
	1/8	KQ2V07-34S			15.3	23.5	18.5	32	26.5		4.6	15	
	1/4	KQ2V07-35S			17.6	28.5	14.6	27.6	24.5		18.5	6	24
5/16	1/8	KQ2V09-34S	11.11	15.2	17.6	28.5	18	31	25.5	18.5	6	30	
	1/4	KQ2V09-35S	20.6		27.5	19.4	35.4	30	21			7	46
	3/8	KQ2V09-36S	12.7		20.6	30.5	19.4	35	29.5			21	7
3/8	1/4	KQ2V11-35S	12.7	17.9	20.6	30.5	19.4	35.4	30	21	7	48	
	3/8	KQ2V11-36S					20.4	34.9	30			22	9
1/2	3/8	KQ2V13-36S	17.46	21.7	27	35.5	23.6	38.1	31	22	9	88	
	1/2	KQ2V13-37S					20.4	34.9	30			22	9

<10-32 UNF>



<NPT>



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

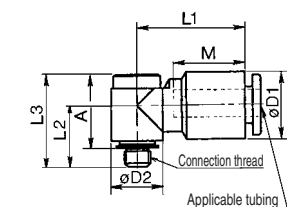
## Hexagon Socket Head Universal Male Elbow: KQ2VS

<10-32 UNF>

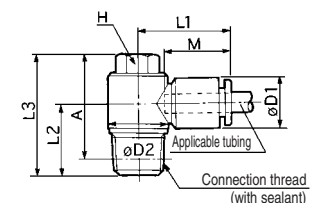
<NPT>

Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VS01-32	4	8.4	9.8	17.2	10.9	18.5	15	12.7	2.3	5
	1/8	KQ2VS01-34S	6.35	9.6	13.4	21.5	13.6	25.6	22.5	15.5	2.5	14
5/32	10-32 UNF	KQ2VS03-32	4	10.4	9.8	20.5	11	18.5	15	16	2.3	6
	1/8	KQ2VS03-34S	6.35		13.4	22	13.6	25.6	22.5		2.8	14
3/16	1/8	KQ2VS05-34S	8	11.4	13.4	23	13.6	25.6	22.5	16.5	3.5	15
	10-32 UNF	KQ2VS07-32			13.4	24	12	24	19	17	2.3	13
1/4	1/8	KQ2VS07-34S	6.35	13.2			13.6	25.6	22.5		4.6	12
	1/4	KQ2VS07-35S			15.3	23.5	18.5	28				
5/16	1/8	KQ2VS09-34S		15.2			14.6	26.1	23	18.5	6	21
	1/4	KQ2VS09-35S	8		17.6	28.5	18	29.5	24			27
	3/8	KQ2VS09-36S			20.6	27.5	19.4	31.4	26			39
	1/4	KQ2VS11-35S					19	31	25.5			33
3/8	3/8	KQ2VS11-36S	8	17.9	20.6	31	19.4	31.4	26	21	7	42
	3/8	KQ2VS13-36S					20.4	33.4	28.5	22	9	63
1/2	1/2	KQ2VS13-37S	9.53	21.7	27	34.5	23.6	36.6	29.5			81

<10-32 UNF>



<NPT>



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

## Universal Female Elbow: KQ2VF

<10-32 UNF>



<NPT>

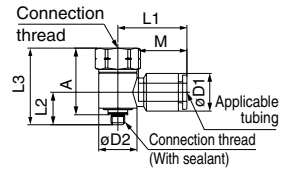


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VF01-32	8	8.4	9.8	17.2	10	20	16.5	12.7	2.3	5
	1/8	KQ2VF01-34S	14.29	9.6	13.4	21.5	13.1	28.6	25.5	15.5	2.5	18
5/32	10-32 UNF	KQ2VF03-32	8	10.4	9.8	20.5	11	20	16	16	2.5	6
	1/8	KQ2VF03-34S	14.29	10.4	13.4	22	14.6	28.6	25.5	16	2.8	18
3/16	10-32 UNF	KQ2VF05-34S	14.29	11.4	13.4	23	13.1	28.6	25.5	16.5	3.5	19
	1/8	KQ2VF07-34S	14.29	13.2	13.4	24	11.5	27	23.5	17	2.3	16
1/4	10-32 UNF	KQ2VF07-34S	14.29	13.2	13.4	24	11.5	27	23.5	17	2.3	16
	1/4	KQ2VF07-35S	17.46	15.2	17.6	25	17	38	32.5	18.5	4.6	37
5/16	1/8	KQ2VF09-34S	17.46	15.2	17.6	28.5	16.1	30.1	27	18.5	6	30
	1/4	KQ2VF09-35S	22.23	17.9	19.5	38	19.5	38	32.5	21	7	60
3/8	3/8	KQ2VF09-36S	22.23	21.7	25.2	29.5	19.4	43.9	39	22	9	85
	1/2	KQ2VF11-35S	22.23	21.7	20.6	31	17	40.5	35	21	7	60
1/2	3/8	KQ2VF11-36S	22.23	21.7	25.2	31.5	18.4	43.9	39	22	9	85
	1/2	KQ2VF13-36S	25.4	21.7	19.9	40.9	39	41.5	41.5	22	9	104

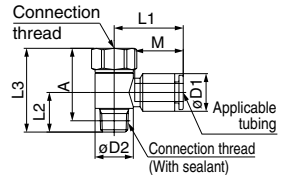


\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter

<10-32 UNF>



<NPT>



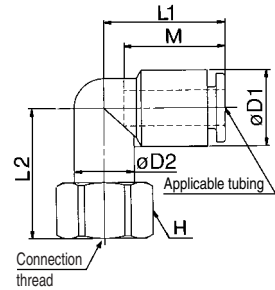
## Female Elbow: KQ2LF



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	M	Min. port size	Mass (g)
1/8	1/8	KQ2LF01-34	14.29	9.6	10	17.5	20	15.5	2.5	12
	1/4	KQ2LF01-35	17.46				23.5			20
5/32	1/8	KQ2LF03-34	14.29	10.4	10	18	20.5	16	3	12
	1/4	KQ2LF03-35	17.46				24			20
1/4	1/8	KQ2LF07-34	14.29	13.2	10	20.5	22	17	4.6	13
	1/4	KQ2LF07-35	17.46				25.5			21
3/8	3/8	KQ2LF07-36	22.23	17.9	17	25.5	26	21	7	33
	1/2	KQ2LF11-35	22.23				27.5			28
1/2	3/8	KQ2LF11-36	22.23	21.7	17	28	32	22	9.6	40
	1/2	KQ2LF11-37	23.81				32			45
1/2	3/8	KQ2LF13-36	22.23	21.7	17	28	30	22	9.6	44
	1/2	KQ2LF13-37	23.81				34			49



Note) øD1: Max. diameter



## Double Universal Male Elbow: KQ2VD

<10-32 UNF>



<NPT>

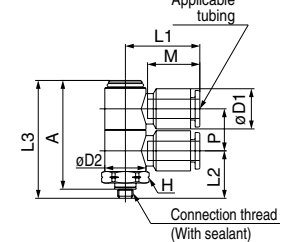


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	P	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VD01-32	14.29	9.6	13.4	22	15.5	38.5	35	15.5	13.4	2.3	24
	1/8	KQ2VD01-34S	14.29				17.1	40.1	37				23
5/32	10-32 UNF	KQ2VD03-32	14.29	10.4	13.4	22	15.5	38.5	35	16	13.4	2.3	24
	1/8	KQ2VD03-34S	14.29				17.6	40.1	37				23
3/16	10-32 UNF	KQ2VD05-34S	14.29	11.4	13.4	23	17.1	40.1	37	16.5	13.4	3.5	24
	1/8	KQ2VD07-32	14.29				15.5	39	35.5				26
1/4	10-32 UNF	KQ2VD07-34S	14.29	13.2	13.4	24	17.6	40.6	37.5	17	13.8	4.6	25
	1/4	KQ2VD07-35S	17.46				22.1	44	38.5				31
5/16	3/8	KQ2VD09-36S	22.23	15.2	17.6	28.5	22.4	45.4	40.5	18.5	15.9	6	44
	1/8	KQ2VD09-35S	19				23.1	50.1	45				49
3/8	1/4	KQ2VD09-36S	22.23	17.9	20.6	31	24.5	51.5	45.5	21	19.2	7	57
	3/8	KQ2VD09-37S	22.23				27.4	54.4	47.5				81
1/2	1/4	KQ2VD11-35S	22.23	21.7	27	35.5	25.5	57.5	52	22	22.3	9.6	76
	3/8	KQ2VD11-36S	22.23				29.9	61.1	54				94
1/2	3/8	KQ2VD13-36S	25.4	21.7	27	35.5	30.9	65.4	60.5	22	22.3	9.6	142
	1/2	KQ2VD13-37S	25.4				34.1	68.6	61.5				159

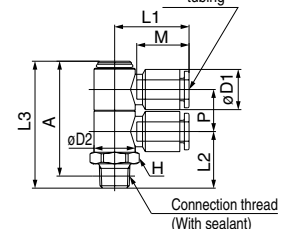


\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter

<10-32 UNF>



<NPT>



K□  
M□  
H□  
KK□  
D□  
MS□  
LQ□  
MQR□  
T□

# Series KQ2

## Triple Universal Male Elbow: KQ2VT

<10-32 UNF>



<NPT>

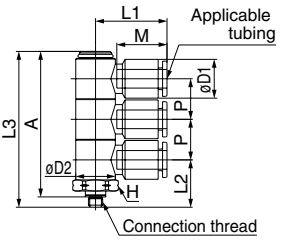


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	P	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VT01-32	14.29	9.6	13.4	22	15.5	52	48.5	15.5	13.4	2.3	32
	1/8	KQ2VT01-34S					17.1	53.6	50.5			2.5	30
5/32	10-32 UNF	KQ2VT03-32	14.29	10.4	13.4	22	15.5	52	48.5	16	13.4	2.3	32
	1/8	KQ2VT03-34S					17.6	53.6	50.5			3	29
3/16	1/8	KQ2VT05-34S	14.29	11.4	13.4	23	17.1	53.6	50.5	16.5	13.4	3.5	31
1/4	10-32 UNF	KQ2VT07-32	14.29	13.2	13.4	24	15.5	53	49.5	17	13.8	4.6	35
	1/8	KQ2VT07-34S					17.6	54.6	51.5				33
	1/4	KQ2VT07-35S					22.1	58	52.5				39
	3/8	KQ2VT07-36S	17.46				22.4	59.4	54				52
5/16	1/4	KQ2VT09-35S	19	15.2	17.6	28.5	23.1	66.1	61	18.5	15.9	6	59
	3/8	KQ2VT09-36S					24.5	67.5	61.5				70
	1/2	KQ2VT09-37S	22.23				27.4	70.4	63.5				94
3/8	1/4	KQ2VT11-35S	22.23	17.9	20.6	31	25.5	77	71.5	21	19.2	7	98
	3/8	KQ2VT11-36S					25.9	77.4	72				98
	1/2	KQ2VT11-37S					29.1	80.6	73				114
1/2	3/8	KQ2VT13-36S	25.4	21.7	27	35.5	30.9	87.9	83	22	22.3	9.6	188
	1/2	KQ2VT13-37S					34.1	91.1	84				203

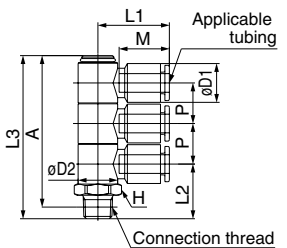


\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter

<10-32 UNF>



<NPT>



## Branch Universal Male Elbow: KQ2Z

<10-32 UNF>



<NPT>

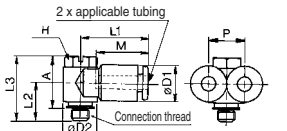


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	P	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2Z01-32	8	8.4	9.8	16	11.2	18.5	15	12.7	8.4	2.3	6
	1/8	KQ2Z01-34S		9.6	13.4	20.5	13.6	25.6	22.5	15.5	9.6	2.5	16
5/32	10-32 UNF	KQ2Z03-32	8	10.4	9.8	19.5	11	18.5	15	16	10.4	2.3	8
	1/8	KQ2Z03-34S			13.4	21	13.6	25.6	22.5			2.8	16
3/16	1/8	KQ2Z05-34S	8	11.4	13.4	21.5	13.6	25.6	22.5	16.5	11.4	3.5	17
1/4	10-32 UNF	KQ2Z07-32	8	13.2	13.4	21.5	12	24	20.5	17	13.2	2.3	15
	1/8	KQ2Z07-34S					13.6	25.6	22.5				17
	1/4	KQ2Z07-35S	11.11				18	31	25.5			4.6	33
5/16	1/8	KQ2Z09-34S	11.11	15.2	17.6	26	14.6	27.6	24.5	18.5	15.2		27
	1/4	KQ2Z09-35S					18	31	25.5			6	33
	3/8	KQ2Z09-36S	12.7				19.4	35.4	30				49
3/8	1/4	KQ2Z11-35S	12.7	17.9	20.6	28.5	19	35	29.5	21	17.9	7	46
	3/8	KQ2Z11-36S					19.4	35.4	30				55
1/2	3/8	KQ2Z13-36S	17.46	21.7	27	33	20.4	34.9	30	22	21.7	9	76
	1/2	KQ2Z13-37S					23.6	38.1	31				93

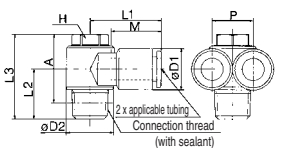


\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter

<10-32 UNF>



<NPT>



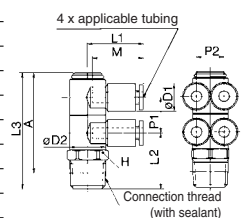
## Double Branch Universal Male Elbow: KQ2ZD



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	P1	P2	Min. port size	Mass (g)
1/8	1/8	KQ2ZD01-34S	14.29	9.6	13.4	20.5	17.1	40.1	37	15.5	13.4	9.6	2.5	26
5/32	1/8	KQ2ZD03-34S	14.29	10.4	13.4	21	17.6	40.1	37	16	13.4	10.4	3	26
3/16	1/8	KQ2ZD05-34S	14.29	11.4	13.4	21.5	17.1	40.1	37	16.5	13.4	11.4	3.5	29
	1/8	KQ2ZD07-34S					17.6	40.6	37.5					30
1/4	1/4	KQ2ZD07-35S	14.29	13.2	13.4	21.5	22.1	44	38.5	17	13.8	13.2	4.6	36
	3/8	KQ2ZD07-36S					22.4	45.4	40.5					49
	1/4	KQ2ZD09-35S	17.46				23.1	50.1	45					56
5/16	3/8	KQ2ZD09-36S	19	15.2	17.6	26	24.5	51.5	45.5	18.5	15.9	15.2	6	64
	1/2	KQ2ZD09-37S					27.4	54.4	47.5					88
	1/4	KQ2ZD11-35S	22.23				25.5	57.5	52					88
3/8	3/8	KQ2ZD11-36S	22.23	17.9	20.6	28.5	25.9	57.9	52.5	21	19.2	17.9	7	90
	1/2	KQ2ZD11-37S					29.1	61.1	54					106
1/2	3/8	KQ2ZD13-36S	25.4	21.7	27	33	30.9	65.4	60.5	22	22.3	21.7	9.6	158
	1/2	KQ2ZD13-37S					34.1	68.6	61.5					176



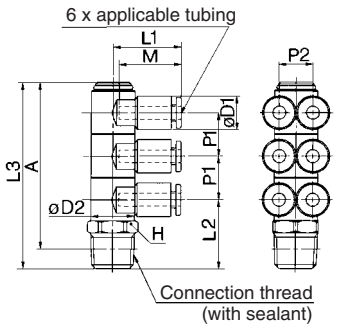
\* Reference dimensions after NPT thread installation.  
Note) øD1: Max. diameter



## Triple Branch Universal Male Elbow: KQ2ZT



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P1	P2	Min. port size	Mass (g)
1/8	1/8	KQ2ZT01-34S	14.29	9.6	13.4	20.5	17.1	53.6	50.5	15.5	13.4	9.6	2.5	34
5/32	1/8	KQ2ZT03-34S	14.29	10.4	13.4	21	17.6	53.6	50.5	16	13.4	10.4	3	34
3/16	1/8	KQ2ZT05-34S	14.29	11.4	13.4	21.5	17.1	53.6	50.5	16.5	13.4	11.4	3.5	38
1/4	1/8	KQ2ZT07-34S	14.29	13.2	13.4	21.5	17.6	54.6	51.5	17	13.8	13.2	4.6	40
	1/4	KQ2ZT07-35S					22.1	58	52.5					46
	3/8	KQ2ZT07-36S					22.4	59.4	54					59
5/16	1/4	KQ2ZT09-35S	19	15.2	17.6	26	23.1	66.1	61	18.5	15.9	15.2	6	70
	3/8	KQ2ZT09-36S					24.5	67.5	61.5					80
	1/2	KQ2ZT09-37S					27.4	70.4	63.5					104
3/8	1/4	KQ2ZT11-35S	22.23	17.9	20.6	28.5	25.5	77	71.5	21	19.2	17.9	7	116
	3/8	KQ2ZT11-36S					25.9	77.4	72					116
	1/2	KQ2ZT11-37S					29.1	80.6	73					132
1/2	3/8	KQ2ZT13-36S	25.4	21.7	27	33	30.9	87.9	83	22	22.3	21.7	9.6	213
	1/2	KQ2ZT13-37S					34.1	91.1	84					228



\* Reference dimensions after NPT thread installation.  
Note)  $\phi D1$ : Max. diameter

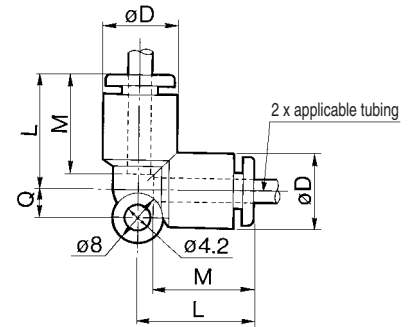
## Union Elbow: KQ2L



Applicable tubing O.D. (inch)	Model	Note) $\phi D$	L	Q	M	Min. port size	Mass (g)
1/8	KQ2L01-00	9.6	17.5	4.3	15.5	2.5	3
5/32	KQ2L03-00	10.4	18	4.5	16	3	4
3/16	KQ2L05-00	11.4	19.5	4.8	16.5	3.5	5
1/4	KQ2L07-00	13.2	20.5	5.3	17	4.6	5
5/16	KQ2L09-00	15.2	23	6	18.5	6	7
3/8	KQ2L11-00	17.9	26	6.6	21	7	13
1/2	KQ2L13-00	21.7	29	7.8	22	9.6	18



Note)  $\phi D$ : Max. diameter



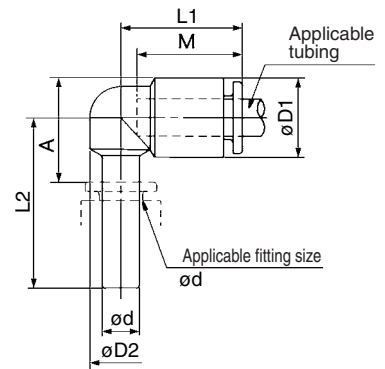
## Plug-in Elbow: KQ2L



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Min. port size	Mass (g)
1/8	1/8	KQ2L01-99	9.6	7	17	24.5	14	15	2.2	3
5/32	5/32	KQ2L03-99	10.4	8	18	25	14.5	16	2.5	3
3/16	3/16	KQ2L05-99	11.4	10	19.5	34	23.5	16.5	3.5	7
1/4	1/4	KQ2L07-99	13.2	10	20	27.5	17.5	17	4.6	8
5/16	5/16	KQ2L09-99	15.2	12	22.5	31.5	21	18.5	6	6
3/8	3/8	KQ2L11-99	17.9	13.6	25	35	23	21	7	19
1/2	1/2	KQ2L13-99	21.7	17	28.8	44.7	34	22	9.6	27



Note)  $\phi D1$ : Max. diameter



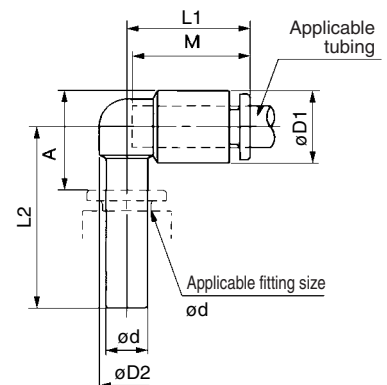
## Reducer Elbow: KQ2L



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Min. port size	Mass (g)
1/8	5/32	KQ2L01-03	9.6	7	17	25	13.5	15.5	2.2	3
	3/16	KQ2L01-05		10	17.5	33	21.5		2.5	7
5/32	3/16	KQ2L03-05	10.4	10	18	33.5	22.5	16	3	6
	1/4	KQ2L03-07		8	26	14.5	2.5		3	3
3/16	1/4	KQ2L05-07	11.4	10	19	26.5	15.5	16.5	3.5	8
	5/16	KQ2L05-09		10	19.5	35.5	23		11	11
1/4	5/16	KQ2L07-09	13.2	10	20.5	36.5	24.5	17	4.6	12
	3/8	KQ2L07-11		10	39.5	23.5	17		17	17
5/16	3/8	KQ2L09-11	15.2	12	23.5	40.5	27.5	18.5	6	17
	1/2	KQ2L09-13		12	41.5	27.5	18.5		30	30
3/8	1/2	KQ2L11-13	17.9	17	25.5	43	30	21	7	25



Note)  $\phi D1$ : Max. diameter



K ☐  
M ☐  
H ☐  
KK ☐  
D ☐  
MS ☐  
LQ ☐  
MQR ☐  
T ☐



# Series KQ2

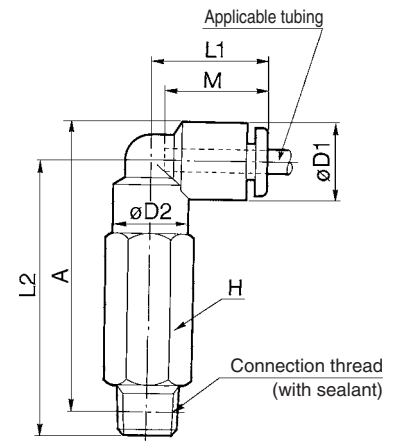
## Extended Male Elbow: KQ2W



Applicable tubing O.D. (inch)	Connection thread NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	1/8	KQ2W01-34S	11.11	9.6	10	17.5	36.1	38	15.5	2.5	19
	1/4	KQ2W01-35S	14.29				42.5	42			41
5/32	1/8	KQ2W03-34S	11.11	10.4	10	18	36.6	38.5	16	3	19
	1/4	KQ2W03-35S	14.29				43	42.5			41
3/16	1/8	KQ2W05-34S	11.11	11.4	10	19.5	37.1	40	16.5	3.5	41
	1/4	KQ2W05-35S	14.29				43.5	43.5			19
1/4	1/8	KQ2W07-34S	11.11	13.2	10	20.5	39.6	43	17	4.6	20
	1/4	KQ2W07-35S	14.29				46	47			42
	3/8	KQ2W07-36S	17.46				47.4	49			69
	1/2	KQ2W07-37S	22.23				50.4	53			74
5/16	1/8	KQ2W09-34S	12.7	15.2	12	23.5	42.6	47	18.5	6	30
	1/4	KQ2W09-35S	14.29				49	51			47
	3/8	KQ2W09-36S	17.46				55.5	59			69
	1/2	KQ2W09-37S	22.23				56.9	61			76
3/8	1/8	KQ2W11-34S	12.7	17.9	17	25.5	42.6	47	21	7	147
	1/4	KQ2W11-35S	14.29				57.5	63			72
	3/8	KQ2W11-36S	17.46				58.9	64.5			78
	1/2	KQ2W11-37S	22.23				65.6	69			149



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



## Male Branch Tee: KQ2T

<10-32 UNF>



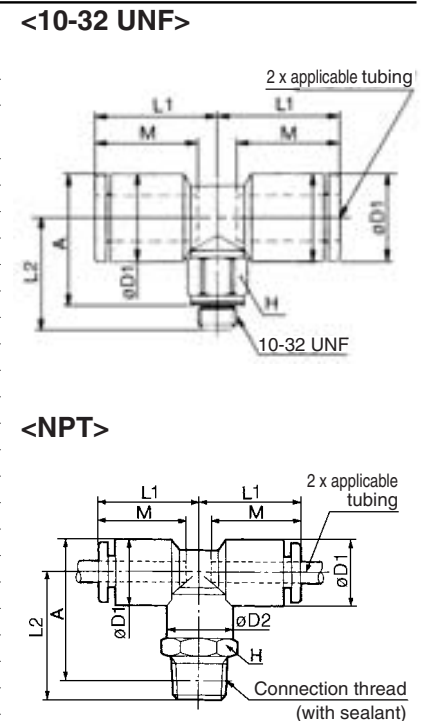
<NPT>



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2T01-32	7	8.4	—	15.3	13.2	14.4	12.7	2.3	3.2
	1/16	KQ2T01-33S	11.11	9.6	10	17.5	21.5	22.5*	15.5	2.5	10
	1/8	KQ2T01-34S	14.29				20.6	22.5*			20
	1/4	KQ2T01-35S	14.29				25	24.5*			20
5/32	10-32 UNF	KQ2T03-32	7	9.3	—	15.6	13.7	15.4	12.7	2.3	3.5
	1/16	KQ2T03-33S	11.11	10.4	10	18	22	23*	16	3	10
	1/8	KQ2T03-34S	14.29				21.1	25.5			11
	1/4	KQ2T03-35S	14.29				25.5	25*			20
3/16	1/8	KQ2T05-34S	11.11	11.4	10	19.5	21.6	24*	16.5	3.5	12
	1/4	KQ2T05-35S	14.29				26	26*			21
	1/2	KQ2T05-37S	22.23				31	36.5*			34
	3/8	KQ2T05-36S	17.46	15.2	12	23	28	30*	18.5	6	23
5/16	1/8	KQ2T07-32	7	12	—	16.1	15.1	18.1	13.6	2.3	4.4
	1/16	KQ2T07-33S	11.11	13.2	10	20.5	22.6	26*	17	4.6	11
	1/8	KQ2T07-34S	14.29				27	28*			21
	1/4	KQ2T07-35S	14.29				28.4	30*			34
3/8	1/8	KQ2T09-34S	12.7	17.9	17	25.5	23.6	28*	21	7	15
	1/4	KQ2T09-35S	14.29				28	30*			23
	3/8	KQ2T09-36S	17.46				29.4	31.5*			35
	1/2	KQ2T09-37S	22.23	21.7	17	28	31	36.5*	22	9.6	31
1/2	1/8	KQ2T11-34S	12.7				29	32.5*			29
	1/4	KQ2T11-35S	14.29				30.4	34.5*			38
	3/8	KQ2T11-36S	17.46				34.6	36.5*			64
5/16	1/8	KQ2T13-34S	12.7	21.7	17	28	31	36.5*	22	9.6	34
	1/4	KQ2T13-35S	14.29				32.4	38.5*			43
	3/8	KQ2T13-36S	17.46				36.6	40*			69
	1/2	KQ2T13-37S	22.23				36.6	40*			69



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



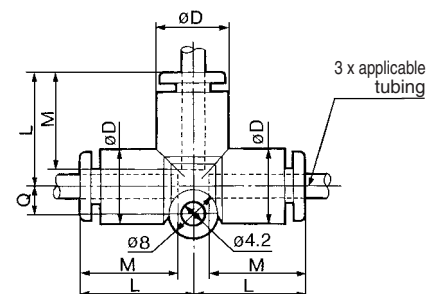
## Union Tee: KQ2T



Applicable tubing O.D. (inch)	Model	Note) øD	L	Q	M	Min. port size	Mass (g)
1/8	KQ2T01-00	9.6	17.5	4.3	15.5	2.5	5
5/32	KQ2T03-00	10.4	18	4.5	16	3	4
3/16	KQ2T05-00	11.4	19.5	4.8	16.5	3.5	7
1/4	KQ2T07-00	13.2	20.5	5.3	17	4.6	8
5/16	KQ2T09-00	15.2	23	6	18.5	6	11
3/8	KQ2T11-00	17.9	26	6.6	21	7	18
1/2	KQ2T13-00	21.7	29	7.8	22	9.6	26



Note) øD: Max. diameter





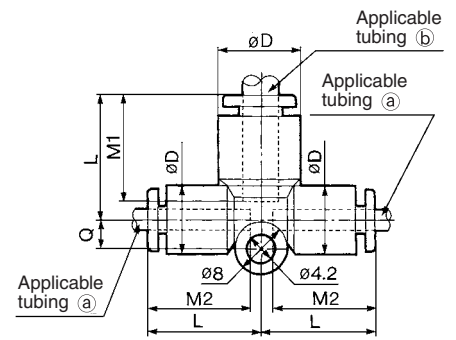
## Different Diameter Tee: KQ2T



Applicable tubing O.D. (inch)		Model	Note) øD	L	Q	M1	M2	Min. port size	Mass (g)
Ⓐ	Ⓑ								
1/8	5/32	KQ2T01-03	10.4	18	4.5	16	15.5	2.5	5
	1/4	KQ2T01-07	13.2	20.5	5.3	17			8
5/32	3/16	KQ2T03-05	11.4	19.5	4.8	16.5	16	3	6
	1/4	KQ2T03-07	13.2	20.5	5.3	17			8
3/16	1/4	KQ2T05-07	13.2	20.5	5.3	17	16.5	3.5	8
	5/16	KQ2T07-09	15.2	23	6	18.5			11
1/4	3/8	KQ2T07-11	17.9	26	6.6	21	17	4.6	17
	5/16	KQ2T09-11	17.9	26	6.6	21			17
5/16	3/8	KQ2T09-13	21.7	29	7.8	22	18.5	6	26
	1/2	KQ2T11-13	21.7	29	7.8	22			28



Note) øD: Max. diameter



K□  
M□  
H□  
KK□  
D□  
MS□  
LQ□  
MQR□  
T□

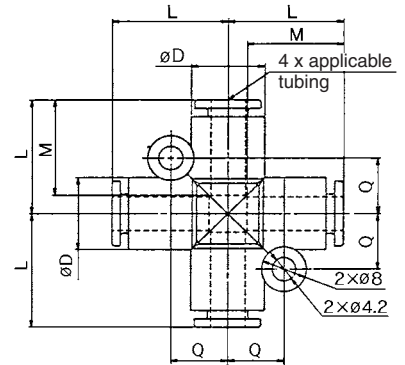
## Cross: KQ2TW



Applicable tubing O.D. (inch)	Model	Note) øD	L	Q	M	Min. port size	Mass (g)
5/32	KQ2TW03-00	10.4	18	8.7	16	3	6
1/4	KQ2TW07-00	13.2	20.5	10.1	17	4.6	10
5/16	KQ2TW09-00	15.2	23	11.1	18.5	6	14
3/8	KQ2TW11-00	17.9	26	12.5	21	7	25
1/2	KQ2TW13-00	21.7	29	14.4	22	9.6	36



Note) øD: Max. diameter



## Male Run Tee: KQ2Y

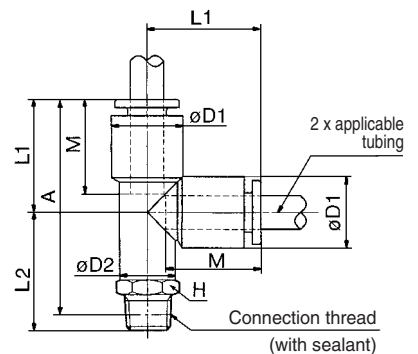


Applicable tubing O.D. (inch)	Connection thread NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	1/16	KQ2Y01-33S	11.11	9.6	10	17.5	21.5	35	15.5	2.5	10
	1/8	KQ2Y01-34S	11.11				20.6	37			20
	1/4	KQ2Y01-35S	14.29				25	37			20
5/32	1/16	KQ2Y03-33S	11.11	10.4	10	18	22	36	16	3	10
	1/8	KQ2Y03-34S	11.11				21.1	36			11
	1/4	KQ2Y03-35S	14.29				25.5	38			20
3/16	1/8	KQ2Y05-34S	11.11	11.4	10	19.5	21.6	38	16.5	3.5	12
	1/4	KQ2Y05-35S	14.29				26	40			21
1/4	1/8	KQ2Y07-34S	11.11	13.2	10	20.5	22.6	40	17	4.6	11
	1/4	KQ2Y07-35S	14.29				27	42			21
	3/8	KQ2Y07-36S	17.46				28.4	44			34
5/16	1/8	KQ2Y09-34S	12.7	15.2	12	23.5	23.6	44	18.5	6	15
	1/4	KQ2Y09-35S	14.29				28	46			23
	3/8	KQ2Y09-36S	17.46				29.4	48			35
3/8	1/4	KQ2Y11-35S	17.46	17.9	17	25.5	29	49	21	7	29
	3/8	KQ2Y11-36S	17.46				30.4	51			38
	1/2	KQ2Y11-37S	22.23				34.6	53			64
1/2	1/4	KQ2Y13-35S	17.46	21.7	17	28	31	53.5	22	9.6	34
	3/8	KQ2Y13-36S	17.46				32.4	55.5			43
	1/2	KQ2Y13-37S	22.23				36.6	57			69

\* Reference dimensions after NPT thread installation.



Note) øD1: Max. diameter



# Series KQ2

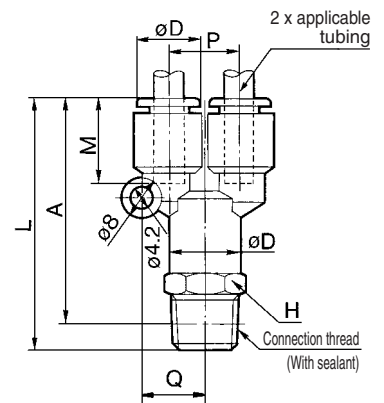
## Branch “Y”: KQ2U



Applicable tubing O.D. (inch)	Connection thread NPT	Model	H (Width across flats)	(Note) $\phi D$	L	P	Q	A*	M	Min. port size	Mass (g)
1/8	1/8	KQ2U01-34S	12.7	9.6	39.6	9.6	9	36.5	15.5	2.5	14
	1/4	KQ2U01-35S	14.29		44			38.5			
5/32	1/8	KQ2U03-34S	12.7	10.4	41.1	10.4	9.7	38	16	3	16
	1/4	KQ2U03-35S	14.29		45.5			40			
3/16	1/8	KQ2U05-34S	12.7	11.4	43.1	11.4	10.6	40	16.5	3.5	18
	1/4	KQ2U05-35S	14.9		48			42.5			
1/4	1/8	KQ2U07-34S	14.29	13.2	45.6	13.2	12	42.5	17	4.6	19
	1/4	KQ2U07-35S			49			43.5			
	3/8	KQ2U07-36S			50.4			45			
5/16	1/8	KQ2U09-34S	17.46	15.2	51.6	15.2	13.7	48.5	18.5	6	21
	1/4	KQ2U09-35S			55			49.5			22
	3/8	KQ2U09-36S			55.4			50			35
3/8	1/4	KQ2U11-35S	19.05	17.9	59.5	17.9	15.6	54	21	7	42
	3/8	KQ2U11-36S			59.9			54.5			43
	1/2	KQ2U11-37S			63.6			56.5			56
1/2	1/4	KQ2U13-35S	22.23	21.7	64	21.7	18.8	58.5	22	9.6	31
	3/8	KQ2U13-36S			64.4			59			41
	1/2	KQ2U13-37S			67.6			60.5			68

\* Reference dimensions after NPT thread installation.

Note)  $\phi D$ : Max. diameter

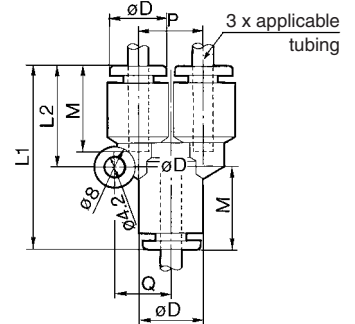


## Union “Y”: KQ2U



Applicable tubing O.D. (inch)	Model	(Note) $\phi D$	L1	L2	P	Q	M	Min. port size	Mass (g)
1/8	KQ2U01-00	9.6	33	17.5	9.6	9	15.5	2.5	6
5/32	KQ2U03-00	10.4	34	18	10.4	9.7	16	3	7
3/16	KQ2U05-00	11.4	36.5	20.5	11.4	10.6	16.5	3.5	9
1/4	KQ2U07-00	13.2	38	21.5	13.2	12	17	4.6	9
5/16	KQ2U09-00	15.2	42.5	24.5	15.2	13.7	18.5	6	11
3/8	KQ2U11-00	17.9	48	27.5	17.9	15.6	21	7	16

Note)  $\phi D$ : Max. diameter

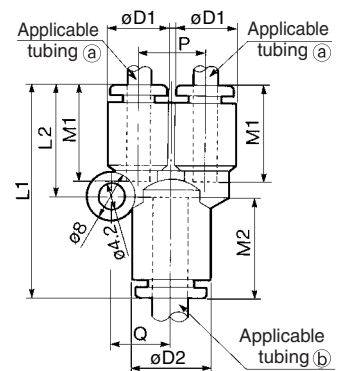


## Different diameter union “Y”: KQ2U



Applicable tubing O.D. (inch)		Model	(Note) $\phi D1$	(Note) $\phi D2$	L1	L2	P	Q	M1	M2	Min. port size	Mass (g)
1/8	5/32	KQ2U01-03	9.6	10.4	33.5	17.5	9.6	9	15.5	16	2.5	5
	1/4	KQ2U01-07		13.2	38	21.5	13.2	12		17		9
5/32	3/16	KQ2U03-05	10.4	11.4	36.5	20.5	11.4	10.6	16	16.5	3	8
	1/4	KQ2U03-07		13.2	38	21.5	13.2	12		17		10
3/16	1/4	KQ2U05-07	11.4	13.2	38	21.5	13.2	12	16.5	17	3.5	9
	5/16	KQ2U07-09		15.2	42.5	24.5	15.2	13.7		18.5		12
1/4	3/8	KQ2U07-11	13.2	17.9	47	27.5	17.9	15.6	17	21	4.6	23
	5/16	KQ2U09-11		17.9	47	27.5	17.9	15.6		21		22
5/16	1/2	KQ2U09-13	15.2	21.7	51	30	21.7	18.8	18.5	22	6	34
	3/8	KQ2U11-13		17.9	21.7	51	30.5	21.7		22		36

Note)  $\phi D1$ ,  $\phi D2$ : Max. diameter

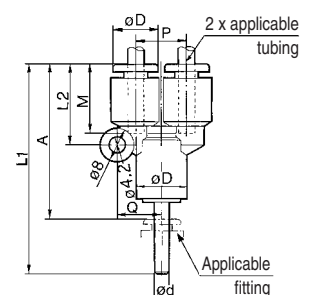


## Plug-in “Y”: KQ2U



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	(Note) $\phi D$	L1	L2	P	Q	A	M	Min. port size	Mass (g)
1/8	1/8	KQ2U01-99	9.6	50	17.5	9.6	9	35	15.5	2	10
5/32	5/32	KQ2U03-99	10.4	51.5	18	10.4	9.7	35.5	16	2.5	12
3/16	3/16	KQ2U05-99	11.4	56	20.5	11.4	10.6	39.5	16.5	3.5	17
1/4	1/4	KQ2U07-99	13.2	56.5	21.5	13.2	12	39.5	17	4.6	18
5/16	5/16	KQ2U09-99	15.2	64.5	24.5	15.2	13.7	46	18.5	6	21

Note)  $\phi D$ : Max. diameter



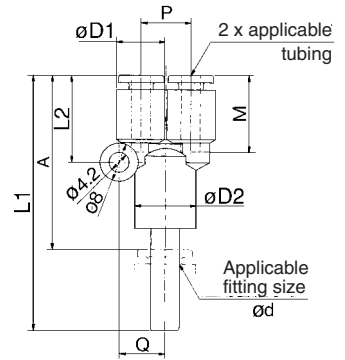
## Different Diameter Plug-in “Y”: KQ2X



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$	Model	(Note) $\phi D$	L1	L2	A	P	Q	M	Min. port size	Mass (g)
1/8	5/32	KQ2X01-03	10.4	51.5	18	35.5	10.4	9.7	15.5	2.5	5
5/32	3/16	KQ2X03-05	11.4	56	20.5	39.5	11.4	10.6	16	3.5	10
3/16	1/4	KQ2X05-07	13.2	56.5	21.5	39.5	13.2	12	16.5	4.6	9
1/4	5/16	KQ2X07-09	15.2	64.5	24.5	46	15.2	13.7	17	6	21



Note)  $\phi D$ : Max. diameter



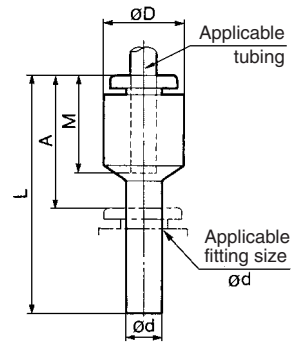
## Plug-in Reducer: KQ2R



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	(Note) $\phi D$	L	A	M	Min. port size	Mass (g)
1/8	5/32	KQ2R01-03	9.6	34.5	18.5	15.5	2.5	2
	3/16	KQ2R01-05	9.2	34	17.5			7
	1/4	KQ2R01-07			17			9
5/32	3/16	KQ2R03-05	10	34	17.5	16	3	8
	1/4	KQ2R03-07	10.4	34.5				9
3/16	1/4	KQ2R05-07	11.4	34.5	18.5	16.5	3.5	4
	5/16	KQ2R05-09	10.7	36.5	18			14
1/4	5/16	KQ2R07-09	13.2	37	18.5	17	4.6	17
	3/8	KQ2R07-11		40	19.5			19
5/16	3/8	KQ2R09-11	14	40	19	18.5	6	24
	1/2	KQ2R09-13		41				32
3/8	1/2	KQ2R11-13	17.9	44	22	21	7	32



Note)  $\phi D$ : Max. diameter

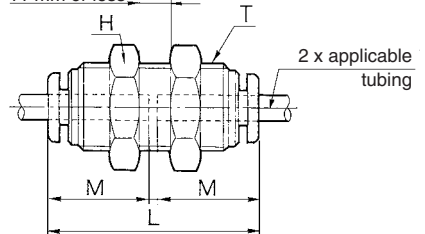


## Bulkhead Union: KQ2E



Applicable tubing O.D. (inch)	Model	T (UNF)	H (Width across flats)	L	Mounting hole	M	Min. port size	Mass (g)
1/8	KQ2E01-00	1/2-20	17.46	32.5	13.5	15.5	2.5	26
5/32	KQ2E03-00	1/2-20	17.46	32.5	13.5	16	3	26
3/16	KQ2E05-00	9/16-18	17.46	34	15	16.5	3.5	33
1/4	KQ2E07-00	9/16-18	17.46	34.5	15	17	4.6	33
5/16	KQ2E09-00	3/4-16	22.23	38	20	18.5	6	52
3/8	KQ2E11-00	7/8-14	25.4	42.5	23	21	7	70
1/2	KQ2E13-00	1-12	28.6	44.5	26	22	9.6	97

Mounting plate thickness 11 mm or less



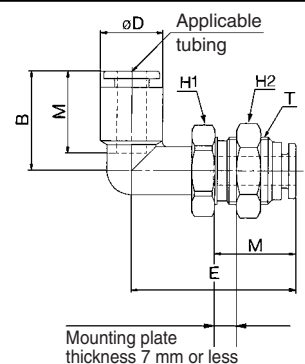
## Bulkhead Male Elbow: KQ2LE



Applicable tubing O.D. (inch)	Model	T (UNF)	H1 (Width across flats)	H2 (Width across flats)	B	E	(Note) $\phi D$	Mounting hole	M	Min. port size	Mass (g)
1/8	KQ2LE01-00	1/2-20	17.46	17.46	17.5	31	9.6	13.5	15.5	2.5	27
5/32	KQ2LE03-00	1/2-20	17.46	17.46	18	31	10.4	13.5	16	3	26
3/16	KQ2LE05-00	9/16-18	17.46	17.46	19.5	34.5	11.4	15	16.5	3.5	32
1/4	KQ2LE07-00	9/16-18	17.46	17.46	20.5	35	13.2	15	17	4.6	29
5/16	KQ2LE09-00	3/4-16	22.23	22.23	23.5	38.5	15.2	20	18.5	6	53
3/8	KQ2LE11-00	7/8-14	25.4	25.4	25.5	43	17.9	23	21	7	85
1/2	KQ2LE13-00	1-12	28.6	28.6	28	46	21.7	26	22	9.6	105



Note)  $\phi D$ : Max. diameter



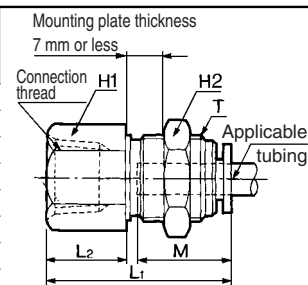
Mounting plate thickness 7 mm or less

# Series KQ2

## Bulkhead Connector: KQ2E



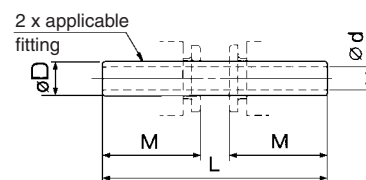
Applicable tubing O.D. (inch)	Connection thread NPT	Model	Connection thread (UNF)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	M	Min. port size	Mounting hole	Mass (g)
1/8	1/4	KQ2E01-35	1/2-20	17.46	17.46	31	15	15.5	2.5	13.5	36
5/32	1/4	KQ2E03-35	1/2-20	17.46	17.46	31	15	16	3	13.5	36
3/16	1/8	KQ2E05-34	9/16-18	17.46	17.46	28	10	16.5	3.5	15	34
1/4	1/4	KQ2E07-35	9/16-18	17.46	17.46	32.5	14.5	17	4.6	15	34
5/16	3/8	KQ2E09-36	3/4-16	22.23	22.23	35	15	18.5	6	20	52
3/8	3/8	KQ2E11-36	7/8-14	25.4	25.4	37	14.5	21	7	23	96
1/2	3/8	KQ2E13-36	1-12	28.6	28.6	37	14	22	9.6	26	125
	1/2	KQ2E13-37	1-12			41.5	18				128



## Nipple: KQ2N



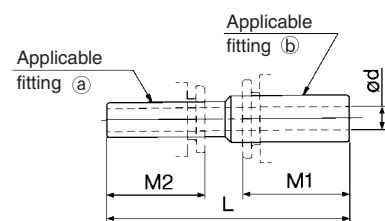
Applicable fitting øD	Model	L	M	ød	Mass (g)
1/8	KQ2N01-99	36	15.5	2.2	0.2
3/16	KQ2N05-99	38	16.5	3.5	0.4
1/4	KQ2N07-99	39	17	4.6	1
3/8	KQ2N11-99	49	21	7.5	10
1/2	KQ2N13-99	51	22	10	15



## Reducer Nipple: KQ2N



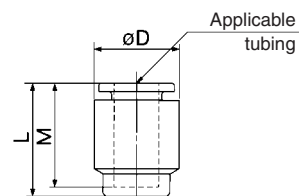
Applicable fitting O.D. (inch)		Model	L	M1	M2	ød	Mass (g)
Ⓐ	Ⓑ						
1/8	5/32	KQ2N01-03	36.5	16	15.5	2.2	0.2
	3/16	KQ2N01-05	37	16.5			0.4
5/32	3/16	KQ2N03-05	37.5	16.5	16	2.5	0.4
	1/4	KQ2N03-07	38	17			0.6
3/16	1/4	KQ2N05-07	38.5	17	16.5	3.5	0.6
	5/16	KQ2N05-09	41	18.5			1
1/4	5/16	KQ2N07-09	41.5	18.5	17	4.6	1
	3/8	KQ2N07-11	45	21			1
5/16	3/8	KQ2N09-11	46.5	21	18.5	6	11
	1/2	KQ2N09-13	47.5	22			22
3/8	1/2	KQ2N11-13	50	22	21	7	24



## Tube Cap: KQ2C



Applicable tubing O.D. (inch)	Model	øD1	L	M	Mass (g)
5/32	KQ2C03-00	10.4	17	16	1
1/4	KQ2C07-00	13.2	18	17	2
5/16	KQ2C09-00	15.2	20.5	18.5	3
3/8	KQ2C11-00	17.9	22.5	21	6

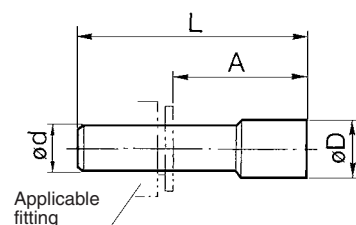


## Plug: KQ2P, KQP



Applicable fitting size ød (inch)	Model (Note)		øD	L	A	Mass (g)
1/8	KQ2P-01	KQP-01	5	31.5	16	1
5/32	KQ2P-03	KQP-03	6	32	16	1
3/16	KQ2P-05	KQP-05	6.8	34	17.5	1
1/4	KQ2P-07	KQP-07	8.5	35	18	1
5/16	KQ2P-09	KQP-09	10	39	20.5	2
3/8	KQ2P-11	KQP-11	11.5	43	22	3.5
1/2	KQ2P-13	KQP-13	15	46	24	5

Note) KQ2P and KQP: Orange





## 1 Grease-free Specifications

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

**K** ☐

**M** ☐

**H** ☐

**KK** ☐

**D** ☐

**MS** ☐

**LQ** ☐

**MQR** ☐

**T** ☐

## 2 Other Specifications

Symbol	Specifications
<b>X2</b>	Copper-free (With electroless nickel plated)
<b>X12</b>	Lubricant: White Vaseline Release button color: White
<b>X23</b>	Metal material: Stainless steel 303 Width across flats: Metric size
<b>X34</b>	Rubber material: FKM
<b>X41</b>	With fixed throttle <sup>Note)</sup>

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

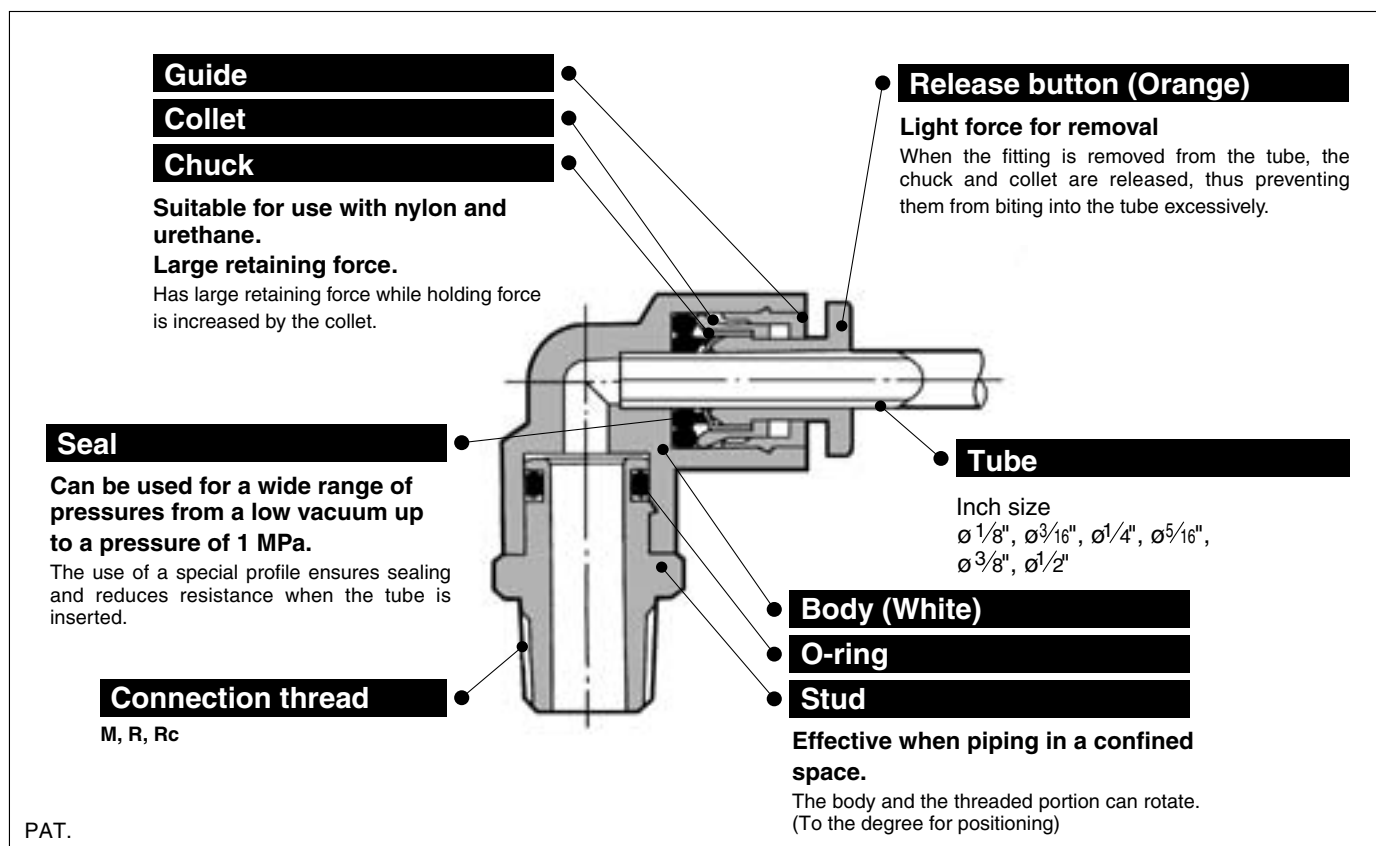
## Spare Parts

Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-10/32G	10-32 UNF	Stainless steel 304, NBR	—
Pipe nut	KQ01-P01	—	—	KQ2E01-00, KQ2E03-00, KQ2E01-35 KQ2E03-35, KQ2LF01-00, KQ2LE03-00
	KQ05-P01	—	—	KQ2E05-00, KQ2E07-00, KQ2E05-34 KQ2E07-35, KQ2LF05-00, KQ2LE07-00
	KQ09-P01	—	—	KQ2E09-00, KQ2E09-36, KQ2LE09-00
	KQ11-P01	—	—	KQ2E11-00, KQ2E11-36, KQ2LE11-00
	KQ13-P01	—	—	KQ2E13-00, KQ2E13-36 KQ2E13-37, KQ2LE13-00

# Inch-size One-touch Fittings

## Series KQ2

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



### Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon <sup>(1)</sup> , Polyurethane
Tubing O.D.	$\varnothing 1/8"$ , $\varnothing 3/16"$ , $\varnothing 1/4"$ , $\varnothing 5/16"$ , $\varnothing 3/8"$ , $\varnothing 1/2"$

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

### Specifications

<b>Fluid</b>	Air/Water <sup>(2)</sup>	
<b>Operating pressure range <sup>(3)</sup></b>	-100 kPa to 1 MPa	
<b>Proof pressure</b>	3 MPa	
<b>Ambient and fluid temperature</b>	-5 to 60°C, Water: 0 to 40°C (No freezing)	
<b>Thread</b>	<b>Mounting section</b>	JIS B0203 (Taper thread for piping)
	<b>Nut section</b>	JIS B0205 (Metric fine thread)
<b>Seal on the threads</b>	With sealant or none	



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

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

### Principal Parts Material

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




**Made to Order**  
(Refer to page 82 for details.)




**Model**

**Male connector**  
**KQ2H** P. 78




Use to pipe in the same direction from female thread. Most general style.

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




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

**Branch "Y"**  
**KQ2U** P. 81




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

**Male elbow**  
**KQ2L** P. 78




Use to pipe at right angles to female thread. Most general style.

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




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

**Bulkhead union**  
**KQ2E** P. 81




Use to connect male thread and tube through a panel.

**Male run tee**  
**KQ2Y** P. 80



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

**Bulkhead connector**  
**KQ2E** P. 81



Use to connect male thread and tube through a panel.

- ☐ K
- ☐ M
- ☐ H
- ☐ KK
- ☐ D
- ☐ MS
- ☐ LQ
- ☐ MQR
- ☐ T

**How to Order**

**KQ2 H 05 - 02 S -**

One-touch fittings

Model

H	Male connector *
L	Male elbow *
W	Extended male elbow *
T	Male branch tee *
Y	Male run tee *
U	Branch "Y" *
E	Bulkhead union
E	Bulkhead connector

\*mark: With sealant is available.

Applicable tubing O.D.

01	ø 1/8"
05	ø 3/16"
07	ø 1/4"
09	ø 5/16"
11	ø 3/8"
13	ø 1/2"

Port size

M5	M5 x 0.8
01	1/8
02	1/4
03	3/8
04	1/2
00	Same dia. tubing

Made to Order  
Refer to page 82 for details.

With thread sealant

Nil	Without sealant
S	With thread sealant

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

# Series KQ2

## Male Connector: KQ2H

KQ2H01-M5  
KQ2H07-M5



<KQ2H05-M5>



<R>

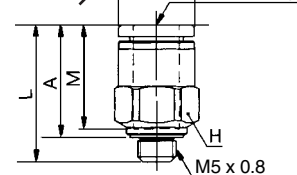


Applicable tubing O.D. (inch)	Connection thread R M	Model	H (Width across flats)	Note) øD	L	A*	M	Min. port size	Mass (g)
1/8	M5 x 0.8	KQ2H01-M5	7	—	16.7	13.6	12.7	2.5	2
	1/8	KQ2H01-01S	10	—	21.1	18	15.5		9
	1/4	KQ2H01-02S	14	—	19	13.5			16
3/16	M5 x 0.8	KQ2H05-M5	8	10.7	24	20.5	16.5	2.5	6
	1/8	KQ2H05-01S	11	—	21.1	18		3.5	11
	1/4	KQ2H05-02S	14	—	20.5	15			12
1/4	M5 x 0.8	KQ2H07-M5	11	10.3	18.4	15.3	13.6	2.5	3.3
	1/8	KQ2H07-01S	13	—	21.6	18.5	17	4.6	10
	1/4	KQ2H07-02S	14	—	22.5	17			15
	3/8	KQ2H07-03S	17	—	21.9	16.5			27
5/16	1/8	KQ2H09-01S	14	—	27.1	24	18.5	6	15
	1/4	KQ2H09-02S		—	26	20.5			16
	3/8	KQ2H09-03S		17	—	21.4			15.5
3/8	1/4	KQ2H11-02S	17	—	33	27.5	21	7	31
	3/8	KQ2H11-03S		—	27.9	22.5			29
	1/2	KQ2H11-04S		22	—	26.1			19
1/2	1/4	KQ2H13-02S	22	—	34	28.5	22	9	44
	3/8	KQ2H13-03S		—	32.4	27		9.6	
	1/2	KQ2H13-04S		—	29.1	22			

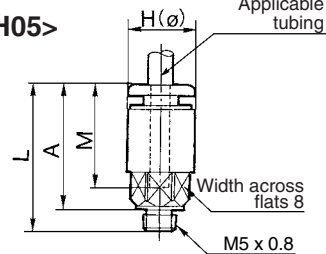
\* Reference dimensions after R thread installation.  
Note) øD: Max. diameter



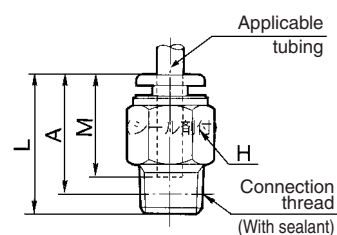
KQ2H01-M5  
KQ2H07-M5



<KQ2H05>



<R>



## Male Elbow: KQ2L

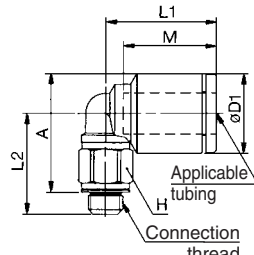


Applicable tubing O.D. (inch)	Connection thread R M	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	M5 x 0.8	KQ2L01-M5	7	8.4	—	15.3	13.2	14.3	12.7	2.3	2.5
3/16	1/8	KQ2L05-01S	10	11.4	10	19.5	21.6	24	16.5	3.5	10
	1/4	KQ2L05-02S	14				26	26			19
1/4	M5 x 0.8	KQ2L07-M5	7	12	—	16.1	15.1	18	13.6	2.3	3.2
	1/8	KQ2L07-01S	10				22.6	26			10
	1/4	KQ2L07-02S	14				27	28			20
	3/8	KQ2L07-03S	17				28.4	29.5			32
5/16	1/8	KQ2L09-01S	12	15.2	12	23.5	23.6	28	18.5	6	12
	1/4	KQ2L09-02S	14				28	30			20
	3/8	KQ2L09-03S	17				29.4	31.5			28
3/8	1/4	KQ2L11-02S	17	17.9	17	25.5	29	32.5	21	7	23
	3/8	KQ2L11-03S					30.4	34			33
	1/2	KQ2L11-04S					34.6	36.5			59
1/2	1/4	KQ2L13-02S	17	21.7	17	28	31	36.5	22	9	28
	3/8	KQ2L13-03S					32.4	38.5		9.6	36
	1/2	KQ2L13-04S					36.6	40			62

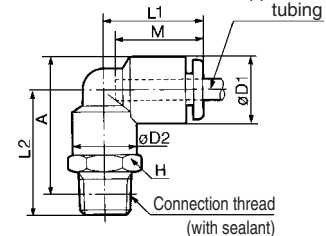
\* Reference dimensions after R thread installation.  
Note) øD1: Max. diameter



<M5>



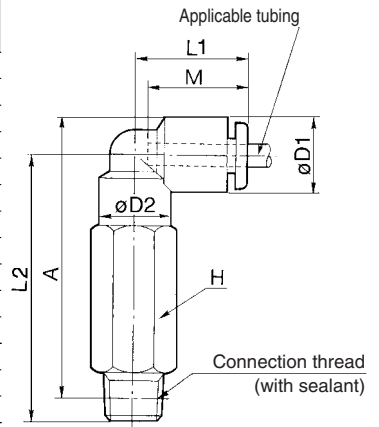
<R>



## Extended Male Elbow: KQ2W



Applicable tubing O.D. (inch)	Connection thread R	Model	H (Width across flats)	<sup>(Note)</sup> øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
3/16	1/8	KQ2W05-01S	10	11.4	10	19.5	37.1	40	16.5	3.5	19
	1/4	KQ2W05-02S	14				43.5	43.5			41
1/4	1/8	KQ2W07-01S	10	13.2	10	20.5	39.6	43	17	4.6	20
	1/4	KQ2W07-02S	14				46	47			45
	3/8	KQ2W07-03S	17				47.4	49			69
5/16	1/8	KQ2W09-01S	12	15.2	12	23.5	42.6	47	18.5	6	30
	1/4	KQ2W09-02S	14				49	51			47
	3/8	KQ2W09-03S	17				50.4	53			74
3/8	1/4	KQ2W11-02S	17	17.9	17	25.5	55.5	59	21	7	69
	3/8	KQ2W11-03S					56.9	61			76
	1/2	KQ2W11-04S					22	63.6			65.5
1/2	1/4	KQ2W13-02S	17	21.7	17	28	57.5	63	22	9	72
	3/8	KQ2W13-03S					58.9	64.5		9.6	78
	1/2	KQ2W13-04S					22	65.6		69	149



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

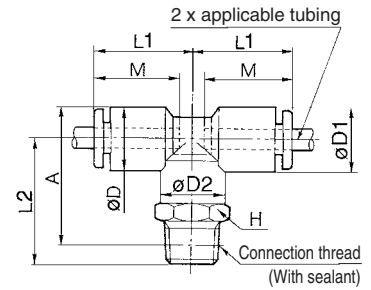


- ☐ K
- ☐ M
- ☐ H
- ☐ KK
- ☐ D
- ☐ MS
- ☐ LQ
- ☐ MQR
- ☐ T

## Male Branch Tee: KQ2T



Applicable tubing O.D. (inch)	Connection thread R	Model	H (Width across flats)	(Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
3/16	1/8	KQ2T05-01S	10	11.4	10	19.5	21.6	24	16.5	3.5	12
	1/4	KQ2T05-02S	14				26	26			21
1/4	1/8	KQ2T07-01S	10	13.2	10	20.5	22.6	26	17	4.6	11
	1/4	KQ2T07-02S	14				27	28			21
	3/8	KQ2T07-03S	17				28.4	30			34
5/16	1/8	KQ2T09-01S	12	15.2	12	23	23.6	28	18.5	6	15
	1/4	KQ2T09-02S	14				28	30			23
	3/8	KQ2T09-03S	17				29.4	31.5			35
3/8	1/4	KQ2T11-02S	17	17.9	17	25.5	29	32.5	21	7	29
	3/8	KQ2T11-03S	17				30.4	34.5			38
	1/2	KQ2T11-04S	22				34.6	36.5			64
1/2	1/4	KQ2T13-02S	17	21.7	17	28	31	36.5	22	9	34
	3/8	KQ2T13-03S	17				32.4	38.5		9.6	43
	1/2	KQ2T13-04S	22				36.6	40		69	



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

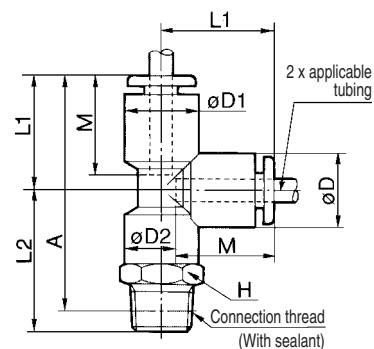


# Series KQ2

## Male Run Tee: KQ2Y



Applicable tubing O.D. (inch)	Connection thread R	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	A*	M	Min. port size	Mass (g)
3/16	1/8	KQ2Y05-01S	10	11.4	10	19.5	21.6	38	16.5	3.5	12
	1/4	KQ2Y05-02S	14				26	40			21
1/4	1/8	KQ2Y07-01S	10	13.2	10	20.5	22.6	40	17	4.6	11
	1/4	KQ2Y07-02S	14				27	42			21
	3/8	KQ2Y07-03S	17				28.4	44			34
5/16	1/8	KQ2Y09-01S	12	15.2	12	23.5	23.6	40	18.5	6	15
	1/4	KQ2Y09-02S	14				28	40			23
	3/8	KQ2Y09-03S	17				29.4	48			35
3/8	1/4	KQ2Y11-02S	17	17.9	17	25.5	29	49	21	7	29
	3/8	KQ2Y11-03S					30.4	51			38
	1/2	KQ2Y11-04S					34.6	53			64
1/2	1/4	KQ2Y13-02S	17	21.7	17	28	31	53.5	22	9.5	34
	3/8	KQ2Y13-03S					32.4	55.5			43
	1/2	KQ2Y13-04S					36.6	57			69

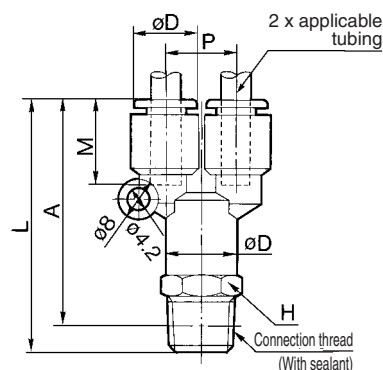


\* Reference dimensions after R thread installation.  
Note)  $\phi D1$ : Max. diameter

## Branch "Y": KQ2U



Applicable tubing O.D. (inch)	Connection thread R	Model	H (Width across flats)	Note) $\phi D$	L	P	A*	M	Min. port size	Mass (g)
3/16	1/8	KQ2U05-01S	12	11.4	43.1	11.4	40	16.5	3.5	18
	1/4	KQ2U05-02S	14		48		42.5			18
1/4	1/8	KQ2U07-01S	14	13.2	45.6	13.2	42.5	17	4.6	19
	1/4	KQ2U07-02S			49		45			19
	3/8	KQ2U07-03S			50.4		45			19
5/16	1/8	KQ2U09-01S	17	15.2	51.6	15.2	48.5	18.5	6	21
	1/4	KQ2U09-02S			55		49.5			22
	3/8	KQ2U09-03S			55.4		50			35
3/8	1/4	KQ2U11-02S	19	17.9	59.5	17.9	54	21	7	42
	3/8	KQ2U11-03S			59.9		54.5			43
	1/2	KQ2U11-04S			63.6		56.5			56
1/2	1/4	KQ2U13-02S	22	21.7	64	21.7	58.5	22	9.5	31
	3/8	KQ2U13-03S			64.4		59			41
	1/2	KQ2U13-04S			67.6		60.5			68

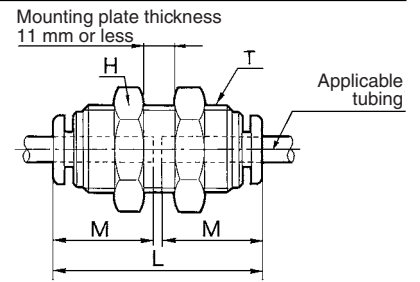


\* Reference dimensions after R thread installation.  
Note)  $\phi D$ : Max. diameter

## Bulkhead Union: KQ2E



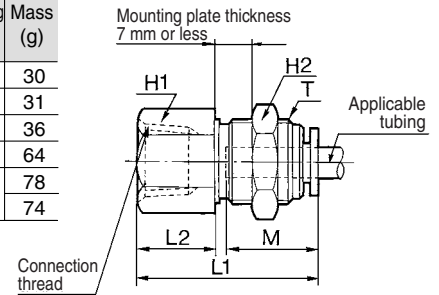
Applicable tubing O.D. (inch)	Model	T (M)	H (Width across flats)	L	Mounting hole	M	Min. port size	Mass (g)
3/16	KQ2E05-00M	M14 x 1	17	34	15	16.5	3.5	30
1/4	KQ2E07-00M	M14 x 1	17	34.5	15	17	4.6	30
5/16	KQ2E09-00M	M16 x 1	19	38	17	18.5	6	48
3/8	KQ2E11-00M	M20 x 1	24	42.5	21	21	7	62
1/2	KQ2E13-00M	M22 x 1	27	44.5	23	22	9.6	85



## Bulkhead Connector: KQ2E



Applicable tubing O.D. (inch)	Connection thread Rc	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	M	Min. port size	Mounting hole	Mass (g)
3/16	1/8	KQ2E05-01	M14 x 1	17	17	28	11.5	16.5	3.5	15	30
1/4	1/4	KQ2E07-02	M14 x 1	17	17	32.5	14.5	17	4.6	15	31
5/16	3/8	KQ2E09-03	M16 x 1	19	19	35	15	18.5	6	17	36
3/8	3/8	KQ2E11-03	M20 x 1	22	24	35	14.5	21	7	21	64
1/2	3/8	KQ2E13-03	M22 x 1	24	27	37	14.5	22	9.6	23	78
	1/2	KQ2E13-04	M22 x 1			41.5	18.5				74



K ☐

M ☐

H ☐

KK ☐

D ☐

MS ☐

LQ ☐

MQR ☐

T ☐



## 1 Grease-free Specifications

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

## 2 Other Specifications

Symbol	Specifications
<b>X2</b>	Copper-free (With electroless nickel plated)
<b>X12</b>	Lubricant: White Vaseline Release button color: White
<b>X34</b>	Rubber material: FKM
<b>X41</b>	With fixed throttle <sup>Note)</sup>

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

## Spare Parts

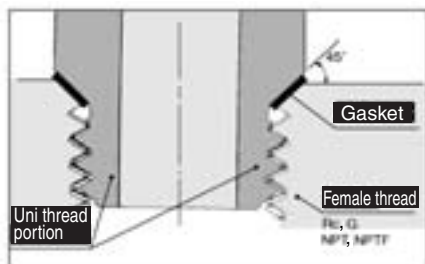
Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-5G2	M5	Stainless steel 304, NBR	—
Pipe nut	KQ06-P01	—	—	KQ2E05-01, KQ2E07-02 KQ2E05-00M, KQ2E07-00M
	KQ08-P01	—	—	KQ2E09-03, KQ2E09-00M
	KQ10-P01	—	—	KQ2E11-03, KQ2E11-00M
	KQ12-P01	—	—	KQ2E13-03, KQ2E11-04, KQ2E13-00M



# Inch-size Uni One-touch Fittings Series KQ2

Applicable Tubing: Inch Size  
Connection Thread: Rc, G, NPT, NPTF

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



## Uni thread ridge shape

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

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

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



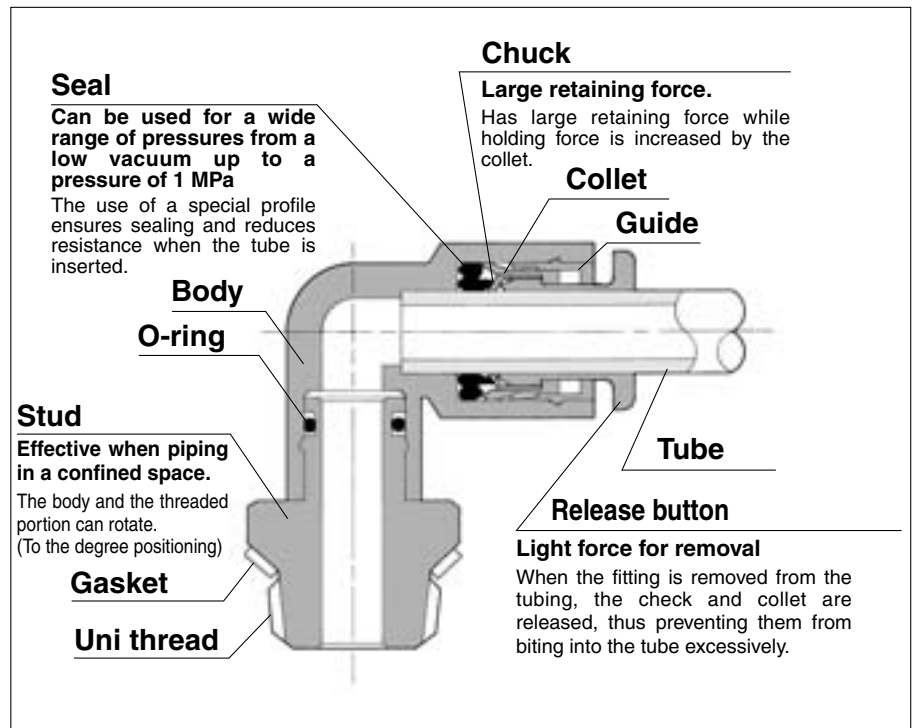
## Product's Color

Series	Body	Release button
Series KQ2	White	Orange
Series KQ	Black	Red



**Made to Order**

Refer to page 97 for details.



## Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon <sup>(1)</sup> , Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

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

## Specifications

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



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

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

## Principal Parts Material

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

## Model

### Male connector

KQ2H

P. 94



Use to pipe in the same direction from female thread. Most general style.

### Male elbow

KQ2L

P. 94



Use to pipe at right angles to female thread. Most general style.

### Male branch tee

KQ2T

P. 95



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

### Male run tee

KQ2Y

P. 95



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

### Branch "Y"

KQ2U

P. 96



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

### Extended male elbow

KQ2W

P. 96



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

K ☐

M ☐

H ☐

KK ☐

D ☐

MS ☐

LQ ☐

MQR ☐

T ☐

## How to Order

**KQ 2 H 05 - U01 -**

One-touch fittings

Product's color

Symbol	Body	Release button
2	White	Orange
Nil	Black	Red

Model

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

Applicable tubing O.D.

01	ø 1/8"
03	ø 5/32"
05	ø 3/16"
07	ø 1/4"
09	ø 5/16"
11	ø 3/8"
13	ø 1/2"

Port size

U01	Uni 1/8"
U02	Uni 1/4"
U03	Uni 3/8"
U04	Uni 1/2"

• Made to Order

Refer to page 97 for details.

## How to Order Gasket

**KQG - U01**

Gasket for Uni One-touch fittings

Applicable port size

U01	Uni 1/8"
U02	Uni 1/4"
U03	Uni 3/8"
U04	Uni 1/2"

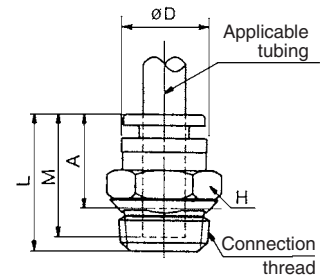
# Series KQ2

## Male Connector: KQ2H



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	L	A *	M	Min. port size	Mass (g)
1/8	1/8	KQ2H01-U01	11.11	18.5	13.5	15.5	2.5	7
	1/4	KQ2H01-U02	14.29	16	10			10
5/32	1/8	KQ2H03-U01	11.11	18.5	13.5	16	3	6
	1/4	KQ2H03-U02	14.29	16.5	10.5			10
3/16	1/8	KQ2H05-U01	12.7	18.5	13.5	16	3.5	7
	1/4	KQ2H05-U02	14.29	17	11			9
1/4	1/8	KQ2H07-U01	12.7	22.5	17.5	17	4.6	9
	1/4	KQ2H07-U02	14.29	20.5	14.5			11
	3/8	KQ2H07-U03	17.46	17.5	11.5			16
5/16	1/8	KQ2H09-U01	14.29	25	20.5	18.5	6	12
	1/4	KQ2H09-U02		21.5	15.5			9
	3/8	KQ2H09-U03	17.46	19.5	13.5			16
3/8	1/4	KQ2H11-U02	17.46	28	22	21	7	19
	3/8	KQ2H11-U03						16
	1/2	KQ2H11-U04	22.23	22	14			30
1/2	1/4	KQ2H13-U02	22.23	30	24	22	9.6	33
	3/8	KQ2H13-U03		28.5	22.5			30
	1/2	KQ2H13-U04		25	17			28

\* Reference dimensions after Uni thread installation.

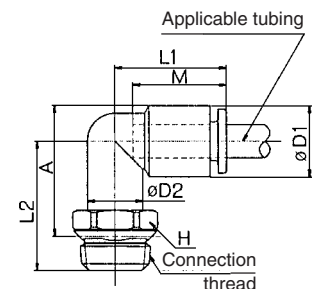


## Male Elbow: KQ2L



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	øD1	øD2	L1	L2	A *	M	Min. port size	Mass (g)
1/8	1/8	KQ2L01-U01	11.11	9.6	10	17.5	20	20.5	15.5	2.5	6
	1/4	KQ2L01-U02	14.29				22	21			13
5/32	1/8	KQ2L03-U01	11.11	10.4	10	18	20	21.5	16	3	7
	1/4	KQ2L03-U02	14.29				22.5				13
3/16	1/8	KQ2L05-U01	11.11	11.4	10	19.5	20.5	22.5	16	3.5	8
	1/4	KQ2L05-U02	14.29				23				14
1/4	1/8	KQ2L07-U01	11.11	13.2	10	20.5	21.5	24	17	4.6	8
	1/4	KQ2L07-U02	14.29				23.5	24.5			15
	3/8	KQ2L07-U03	17.46				24.5	25			21
5/16	1/8	KQ2L09-U01	12.7	15.2	12	23.5	22.5	25.5	18.5	6	10
	1/4	KQ2L09-U02	14.29				24.5	26.5			15
	3/8	KQ2L09-U03	17.46				25.5	27			17
3/8	1/4	KQ2L11-U02	17.46	17.9	17	25.5	26.5	29.5	21	7	18
	3/8	KQ2L11-U03					27	30			22
	1/2	KQ2L11-U04					30	31			41
1/2	1/4	KQ2L13-U02	17.46	21.7	17	28	28.5	33	22	9.6	23
	3/8	KQ2L13-U03					28.5	33.5			31
	1/2	KQ2L13-U04	22.23				32	35			44

\* Reference dimensions after Uni thread installation.

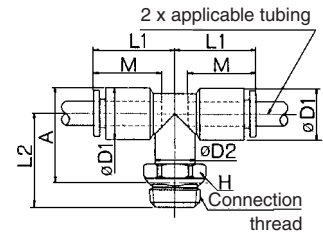


## Male Branch Tree: KQ2T



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	1/8	KQ2T01-U01	11.11	9.6	10	17.5	20	21	15.5	2.5	8
	1/4	KQ2T01-U02	14.29				22				15
5/32	1/8	KQ2T03-U01	11.11	10.4	10	18	20	21.5	16	3	9
	1/4	KQ2T03-U02	14.29				22.5				15
3/16	1/8	KQ2T05-U01	11.11	11.4	10	19.5	20.5	22.5	16.5	3.5	10
	1/4	KQ2T05-U02	14.29				23				16
1/4	1/8	KQ2T07-U01	11.11	13.2	10	20.5	21.5	24	17	4.6	10
	1/4	KQ2T07-U02	14.29				23.5				17
	3/8	KQ2T07-U03	17.46				24.5				24
5/16	1/8	KQ2T09-U01	12.7	15.2	12	23.5	22.5	26	18.5	6	14
	1/4	KQ2T09-U02	14.29				24.5				19
	3/8	KQ2T09-U03	17.46				25.5				25
3/8	1/4	KQ2T11-U02	17.46	17.9	17	25.5	26.5	29.5	21	7	24
	3/8	KQ2T11-U03					27				27
	1/2	KQ2T11-U04					30				46
1/2	1/4	KQ2T13-U02	17.46	21.7	17	28	33	33.5	22	9.6	29
	3/8	KQ2T13-U03					28.5				32
	1/2	KQ2T13-U04					32				51

\* Reference dimensions after Uni thread installation.



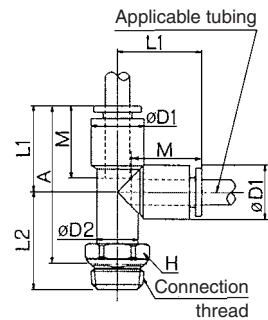
K□  
M□  
H□  
KK  
D□  
MS  
LQ  
MQR  
T□

## Male Run Tree: KQ2Y



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	1/8	KQ2Y01-U01	11.11	9.6	10	17.5	20	33.5	15.5	2.5	8
	1/4	KQ2Y01-U02	14.29				22				15
5/32	1/8	KQ2Y03-U01	11.11	10.4	10	18	20	34	16	3	9
	1/4	KQ2Y03-U02	14.29				22.5				15
3/16	1/8	KQ2Y05-U01	11.11	11.4	10	19.5	20.5	36	16.5	3.5	10
	1/4	KQ2Y05-U02	14.29				23				16
1/4	1/8	KQ2Y07-U01	11.11	13.2	10	20.5	21.5	38	17	4.6	10
	1/4	KQ2Y07-U02	14.29				23.5				17
	3/8	KQ2Y07-U03	17.46				24.5				24
5/16	1/8	KQ2Y09-U01	12.7	15.2	12	23.5	22.5	42	18.5	6	14
	1/4	KQ2Y09-U02	14.29				24.5				19
	3/8	KQ2Y09-U03	17.46				25.5				25
3/8	1/4	KQ2Y11-U02	17.46	17.9	17	25.5	26.5	46	21	7	24
	3/8	KQ2Y11-U03					27				27
	1/2	KQ2Y11-U04					30				46
1/2	1/4	KQ2Y13-U02	17.46	21.7	17	28	28.5	50.5	22	9.6	29
	3/8	KQ2Y13-U03					28.5				32
	1/2	KQ2Y13-U04					32				51

\* Reference dimensions after Uni thread installation.



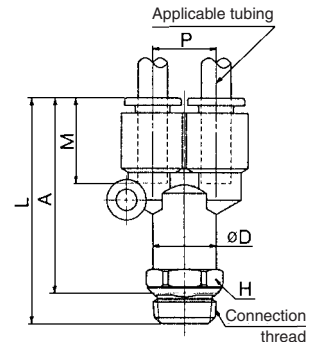
# Series KQ2

## Branch “Y”: KQ2U



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	øD	L	P	A*	M	Min. port size	Mass (g)			
1/8	1/8	KQ2U01-U01	12.7	9.6	38.5	9.6	34.5	15.5	2.5	10			
	1/4	KQ2U01-U02	14.29		40.5								
5/32	1/8	KQ2U03-U01	12.7	10.4	40	10.4	36	16	3	12			
	1/4	KQ2U03-U02	14.29		42								
3/16	1/8	KQ2U05-U01	12.7	11.4	42	11.4	38	16.5	3.5	14			
	1/4	KQ2U05-U02	14.29		44.5								
1/4	1/8	KQ2U07-U01	14.29	13.2	44.5	13.2	40.5	17	4.6	15			
	1/4	KQ2U07-U02			46		40						
	3/8	KQ2U07-U03	17.46		46.5		40.5						
5/16	1/8	KQ2U09-U01	17.46	15.2	50.5	15.2	46.5	18.5	6	20			
	1/4	KQ2U09-U02			52		46			18			
	3/8	KQ2U09-U03			51.5		45.5			25			
3/8	1/4	KQ2U11-U02	19.05	17.9	56.5	17.9	50.5	21	7	37			
	3/8	KQ2U11-U03			59		51			32			
	1/2	KQ2U11-U04	22.23							38			
1/2	1/4	KQ2U13-U02	22.23	21.7	61	21.7	55	22	9.6	26			
	3/8	KQ2U13-U03			62.7		54.7			30			
	1/2	KQ2U13-U04								50			

\* Reference dimensions after Uni thread installation.

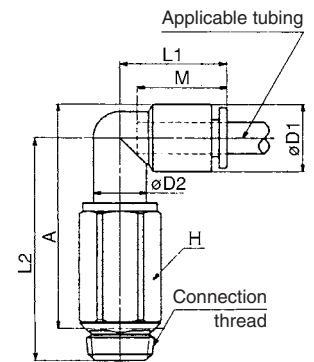


## Extended Male Elbow: KQ2W



Applicable tubing O.D. (inch)	Connection thread Uni thread	Model	H (Width across flats)	øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)		
1/8	1/8	KQ2W01-U01	11.11	9.6	10	17.5	34.5	34	15.5	2.5	17		
	1/4	KQ2W01-U02	14.29				36.5	35.5			26		
5/32	1/8	KQ2W03-U01	11.11	10.4	10	18	34.5	35.5	16	3	18		
	1/4	KQ2W03-U02	14.29				37	36.1			26		
3/16	1/8	KQ2W05-U01	11.11	11.4	10	19.5	35	36	16.5	3.5	19		
	1/4	KQ2W05-U02	14.29				40	39.5			27		
1/4	1/8	KQ2W07-U01	11.11	13.2	10	20.5	36	37.5	17	4.6	21		
	1/4	KQ2W07-U02	14.29				41	41.5			31		
	3/8	KQ2W07-U03	17.46				41.5	42			39		
5/16	1/8	KQ2W09-U01	12.7	15.2	12	23.5	43.5	46.5	18.5	6	26		
	1/4	KQ2W09-U02	14.29				45.5	47			35		
	3/8	KQ2W09-U03	17.46				46	48			39		
3/8	1/4	KQ2W11-U02	17.46	17.9	17	25.5	52.5	55.5	21	7	59		
	3/8	KQ2W11-U03	52				55	55					
	1/2	KQ2W11-U04	22.23				54.5	55.5			97		
1/2	1/4	KQ2W13-U02	17.46	21.7	17	28	54	59	22	9.6	64		
	3/8	KQ2W13-U03	56				64						
	1/2	KQ2W13-U04					100						

\* Reference dimensions after Uni thread installation.





## 1 Grease-free Specifications

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

## 2 Other Specifications

Symbol	Specifications
<b>X2</b>	Copper-free (With electroless nickel plated)
<b>X12</b>	Lubricant: White Vaseline Release button color: White
<b>X41</b>	With fixed throttle <sup>Note)</sup>

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

## Spare Parts

Description	Part no.	Applicable thread
Gasket	KQG-U01	Uni 1/8
	KQG-U02	Uni 1/4
	KQG-U03	Uni 3/8
	KQG-U04	Uni 1/2

**K** ☐

**M** ☐

**H** ☐

**KK** ☐

**D** ☐

**MS** ☐

**LQ** ☐

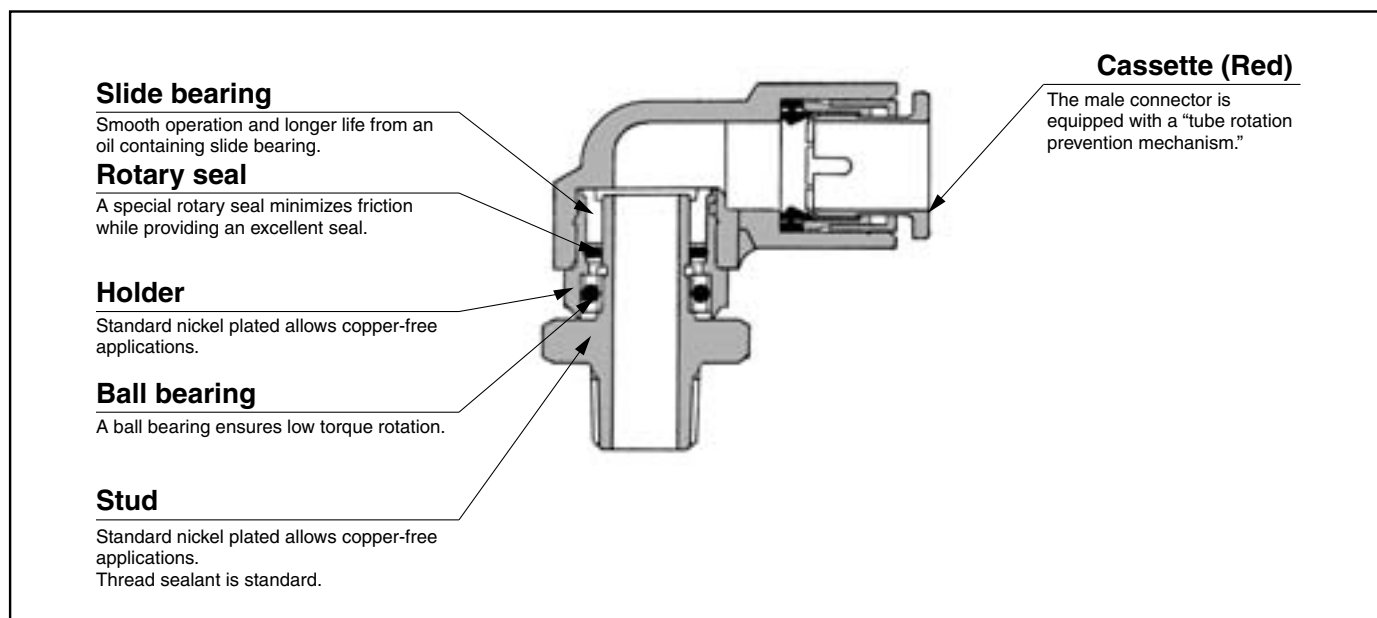
**MQR** ☐

**T** ☐

# Inch-size Rotary One-touch Fittings Standard Type

## Series KS

Applicable Tubing: Inch Size



**Low-torque rotation style rotary One-touch fittings**

**Applicable to use for oscillating and rotating sections in robots.**

**Applicable to non-copper type (With electroless nickel plated)**

**Thread sealant is standard.**



### Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø 5/32", ø 1/4", ø 5/16", ø 3/8"

### Specification

Fluid	Air
Operating pressure range <sup>1)</sup>	-100 kPa to 1 MPa
Proof pressure	3 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Thread	ANSI/ASME B1.20.1 (NPT thread) JIS B 0212 (UNF thread)



Note 1) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.  
Also, when using in a vacuum, grease may enter the inside due to the nature of its construction.

### Rotating Torque/Allowable Number of Rotations

Applicable tubing O.D.	ø 5/32"	ø 1/4"	ø 5/16"	ø 3/8"
Rotating torque (N·m) <sup>(2)</sup>	0.006	0.012	0.014	0.020
Allowable number of rotations (S <sup>-1</sup> ) <sup>(3)</sup>	8.3	8.3	6.7	5



Note 2) Rotating torque under pressure 0.5 MPa



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

### Principal Parts Material

Principal parts	Series KS
Body	PBT
Stud, Holder, Guide	Stainless steel 304, C3604 (With electroless nickel plated), PBT
Chuck, Retainer	Stainless steel 304
Collet, Release button, Snap ring	Polyacetal
O-ring, Packing	NBR
Rotary seal	NBR
Slide bearing	Oil-containing polyacetal
Scraper	—
Ball bearing	Bearing steel
Gasket	Stainless steel 304, NBR



## Series KS

Model	Connection thread	Applicable tubing O.D. (inch)			
		$\phi 5/32"$	$\phi 1/4"$	$\phi 5/16"$	$\phi 3/8"$
Male connector <b>KSH</b> 	10-32 UNF	●			
	NPT 1/8	●	●	●	
	NPT 1/4		●	●	●
	NPT 3/8				●
Male elbow <b>KSL</b> 	10-32 UNF	●			
	NPT 1/8	●	●	●	
	NPT 1/4		●	●	●
	NPT 3/8				●

**K** ☐

**M** ☐

**H** ☐

**KK** ☐

**D** ☐

**MS** ☐

**LQ** ☐

**MQR** ☐

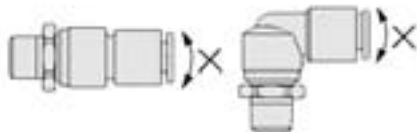
**T** ☐

## Precautions

**Be sure to read before handling.**  
**Refer to front matters 58 and 59 for Safety Instructions and pages 13 to 16 for Fittings and Tubing Precautions.**

### Caution

- Implement the tube piping in such a way that lateral load should not be applied on the ball bearings at the rotating part, otherwise it may adversely affect the life expectancy.  
 A flexible polyurethane tube is recommended when lateral load is applied.



- Do not use in an environment where it will be exposed to water.  
 Contact with water will cause outflow of the lubricating oil used in the ball bearings, and adversely affect rotating performance and equipment lifespan.
- Fluorine based grease is used on the rotating portions.

# Series KS

## Male Connector: KSH (Standard)

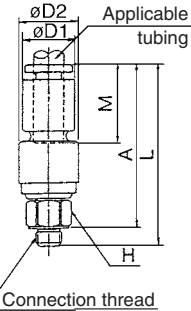
<UNF>



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	D1	D2	L	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Mass (g)
5/32	10-32 UNF	KSH03-32	8	10.4	12	36.5	33	16	2.5	4.0	4.0	9
	1/8	KSH03-34S	12.7			37.6	34.5					14
1/4	1/8	KSH07-34S	14.29	13.2	14	38.6	35.5	17	4	13.4	10.4	17
	1/4	KSH07-35S				42	36.5					23
5/16	1/8	KSH09-34S	17.46	15.2	17	43.1	40	18.5	6	26.1	18.0	23
	1/4	KSH09-35S				46.5	41					29
3/8	1/4	KSH11-35S	22.23	17.9	22	53.5	48	21	7	36.3	29.5	55
	3/8	KSH11-36S				53.9	48.5					63

\* Reference dimensions after NPT thread installation.

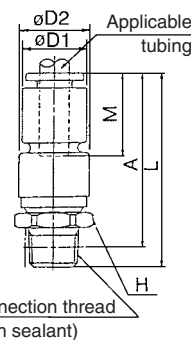
<UNF>



<NPT>



<NPT>



## Male Elbow: KSL (Standard)

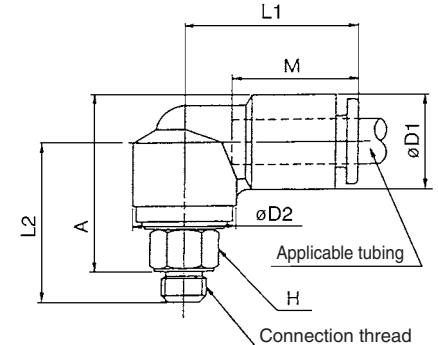
<UNF>



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	D1	D2	L1	L2	A *	M	Min. port size	Effective area (mm <sup>2</sup> )		Mass (g)
5/32	10-32 UNF	KSL03-32	8	10.4	12	21	20.5	22	16	2.5	3.5	3.5	9
	1/8	KSL03-34S	12.7			21	21.1	23.5					14
1/4	1/8	KSL07-34S	14.29	13.2	14	23.5	22.1	25.5	17	4	8.6	8.6	17
	1/4	KSL07-35S				23.5	25.5	26.5					23
5/16	1/8	KSL09-34S	17.46	15.2	17	26	25.6	30	18.5	6	21.6	14.9	23
	1/4	KSL09-35S				26	29	31					29
3/8	1/4	KSL11-35S	22.23	17.9	22	31.5	33.5	37	21	7	30.5	25.0	56
	3/8	KSL11-36S				31.5	33.9	38					64

\* Reference dimensions after NPT thread installation.

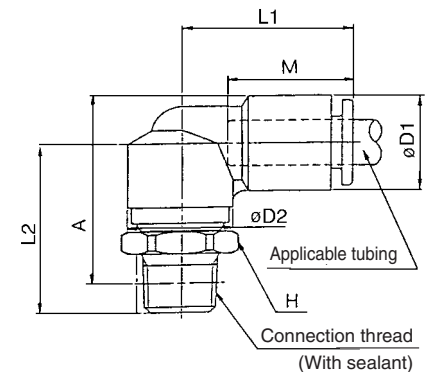
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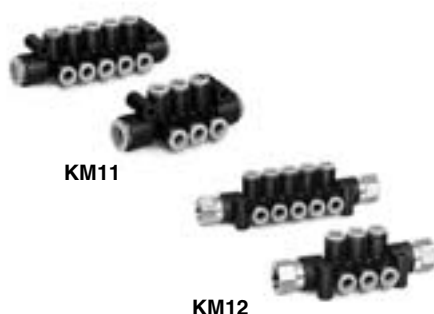


# Inch-size One-touch Fittings Manifold

## Series *KM*

Applicable Tubing: Inch size

Compact piping possible.  
Manifold piping possible.  
Many varieties (12 types)  
are available.  
One-touch fittings give the  
most efficient operation.



### Model

Model	Porting		No. of Port A	Port B size	Port A size		
	Port A	Port B			ø5/32"	ø1/4"	ø5/16"
KM11	One-touch fitting	One-touch fitting	6, 10	ø5/16"	●		
				ø3/8"		●	
				ø1/2"			●
KM12	One-touch fitting	NPT thread	6, 10	NPT 1/4	●	●	
				NPT 3/8			●

### Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon <sup>(1)</sup> , Polyurethane
Tubing O.D.	ø5/32", ø1/4", ø5/16", ø3/8", ø1/2"

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

### Specifications

Model	KM11	KM12
Fluid	Air/Water <sup>(2)</sup>	
Maximum operating pressure	1 MPa	
Proof pressure	3 MPa	
Ambient and fluid temperature	-5 to 60°C, Water: 0 to 40°C (No freezing)	
Thread	—	ANSI/ASME B1.20.1-1983 (NPT thread)



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



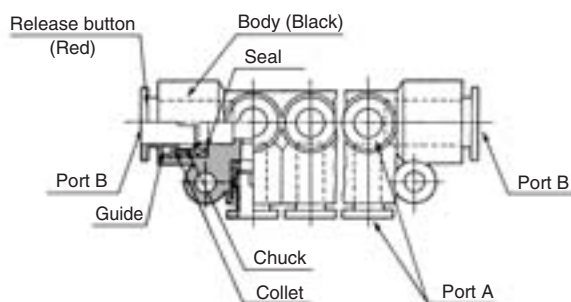
**Made to Order**  
(Refer to page 122 for details.)

### Principal Parts Material

Model	KM11	KM12
Body	PBT	
Stud	—	C3604
Chuck	Stainless steel 304	
Guide	Stainless steel 304, C3604	
Collet, Release button	POM	
Seal, O-ring	NBR	

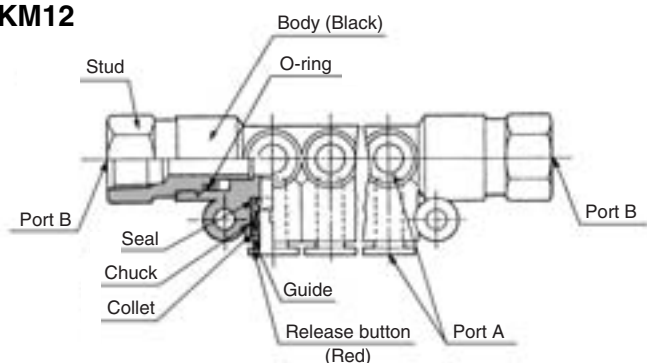
### Construction

#### KM11



Port A: One-touch fitting  
Port B: One-touch fitting

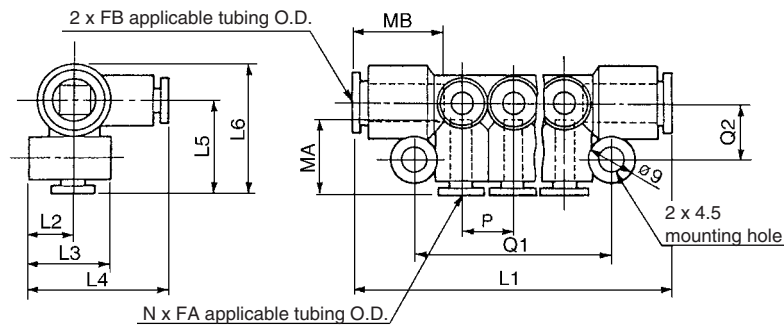
#### KM12



Port A: One-touch fitting  
Port B: NPT female thread

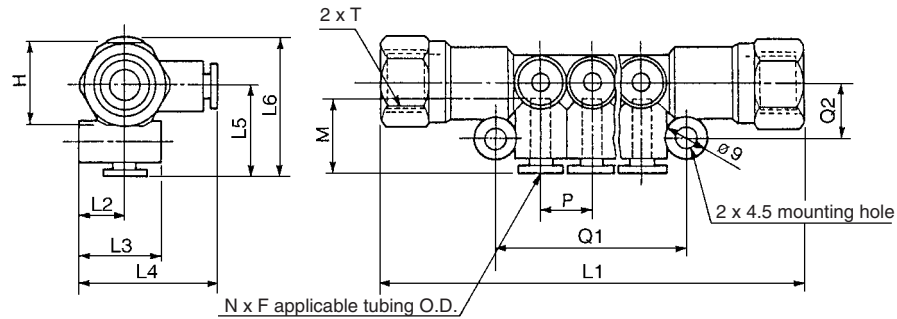
## Dimensions

### KM11



Applicable tubing O.D. (inch)		Model	N	L1	L2	L3	L4	L5	L6	P	Q1	Q2	MA	MB	Port B Min. port size	Mass (g)
FA	FB															
5/32	5/16	KM11-03-09-6	6	65	10	18	29.5	19.5	27	10.6	40	12	16	18.5	6	19
		KM11-03-09-10	10	86	10	18	29.5	19.5	27	10.6	61.5	12	16	18.5	6	26
1/4	3/8	KM11-07-11-6	6	77.8	10	19.5	31.5	21.5	30.5	13.2	48	13	17	21	7	30
		KM11-07-11-10	10	104	10	19.5	31.5	21.5	30.5	13.2	73.5	13	17	21	7	40
5/16	1/2	KM11-09-13-6	6	85	12.7	23.7	37.7	25	35.9	15.2	52.8	15	18.5	22	9.5	41
		KM11-09-13-10	10	115	12.7	23.7	37.7	25	35.9	15.2	83	15	18.5	22	9.5	57

### KM12



Applicable tubing O.D. F (inch)	T Connection thread NPT	Model	N	H (Width across flats)	L1	L2	L3	L4	L5	L6	P	Q1	Q2	M	Port B Min. port size	Mass (g)
5/32	1/4	KM12-03-35-6	6	17.46	87	10	18	29.5	19.5	29	10.6	40	12	16	6	65
		KM12-03-35-10	10		110							61.5				72
1/4	1/4	KM12-07-35-6	6	17.46	95	10	19.5	31.5	21.5	31.25	13.2	48	13	17	7	82
		KM12-07-35-10	10		121							73.5				92
5/16	3/8	KM12-09-36-6	6	22.22	102	12.7	23.7	37.7	25	37.5	15.2	52.8	15	18.5	9.5	97
		KM12-09-36-10	10		132							83				112

## Handling of One-touch Fittings

### ⚠ Caution

Refer to P. 15 "Fittings & Tubing Precautions" for the details of installation/removal of One-touch fittings.



## 1 Grease-free Specifications

Symbol	Specifications
<b>X17</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
<b>X29</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plated)
<b>X94</b>	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

Suffix "-X17" to the end of part number.

Example) **KM11-03-09-10-X17**

## 2 Other Specifications

Symbol	Specifications
<b>X2</b>	Copper-free (With electroless nickel plated)
<b>X12</b>	Lubricant: White Vaseline Release button color: White
<b>X34</b>	Rubber material: FKM

Suffix "-X2" to the end of part number.

Example) **KM11-03-09-6-X2**

# Inch-size Rectangular Multi-connector Series *KDM*

No. of Connecting Tubes: 10, 20

**Multi-connector is effective in saving labor for separate transportation of the panel and the machine, and for exchanging units due to failure.**

## Substantial reduction in mounting space

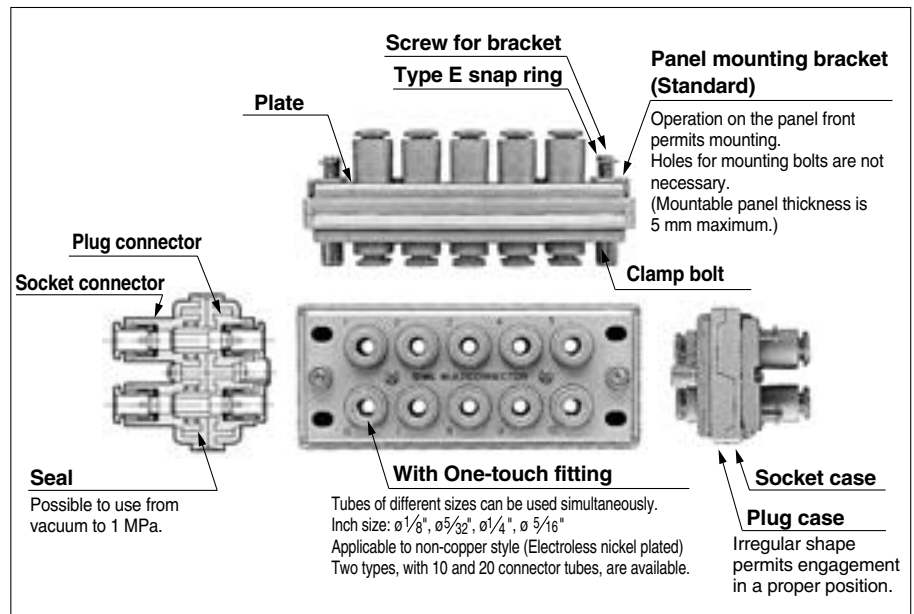
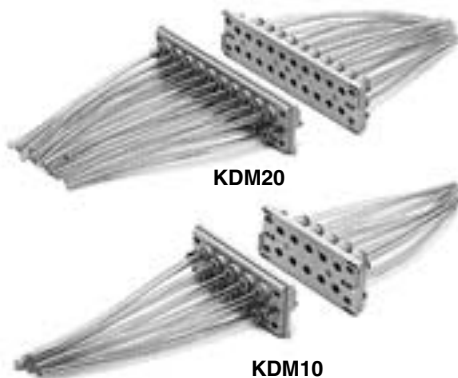
In comparison with a model requiring many union joints for panels and partitions, this model needs only a small space.

## One-touch connection/disconnection of connector

Multiple pipes can be connected/disconnected in one-touch operation without connection error. Thus man-hours for connection/disconnection are cut down substantially.

## One-touch tube connection

One-touch fittings substantially cuts down man-hours for piping.



## Model

No. of connecting tubes	Tubing O.D.	Model	Weight (g)	Color of release button	
10	ø 1/8"	KDM10-01	300	Red	
	ø 5/32"	KDM10-03			
	ø 1/4"	KDM10-07			
	ø 5/16"	KDM10-09	520		
20	ø 1/8"	KDM20-01	520		Red
	ø 5/32"	KDM20-03			
	ø 1/4"	KDM20-07			
	ø 5/16"	KDM20-09	950		

## Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	$\phi 1/8"$ , $\phi 5/32"$ , $\phi 1/4"$ , $\phi 5/16"$



**Made to Order**  
(Refer to page 201 for details.)

## Specifications

Fluid	Air
Operating pressure range <sup>Note)</sup>	-100 kPa to 1 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)

Note) Please avoid using in a vacuum holding application such as a leak tester, since there is leakage.

## Principal Parts Material

Plug case, Socket case		POM
Plate, Bracket		SPCC plated
Plug connector, Socket connector	Body	PBT, C3604BD Electroless nickel plated (ø5/16)
	Chuck	Stainless steel 304
	Guide	Stainless steel 304, C3604BD Electroless nickel plated, POM (ø5/16)
	Collet, Release button	POM
	Seal	NBR
Clamp bolt, Screw for bracket, Cross-recessed head machine screw		SWRM (Nickel plated)
Type E snap ring		Stainless steel 304

## Model

No. of connection tubes	Tubing O.D.	Model		Color of release button
		Plug	Socket	
10	ø 1/8"	KDM10P-01	KDM10S-01	Red
	ø 5/32"	KDM10P-03	KDM10S-03	
	ø 1/4"	KDM10P-07	KDM10S-07	
	ø 5/16"	KDM10P-09	KDM10S-09	
20	ø 1/8"	KDM20P-01	KDM20S-01	
	ø 5/32"	KDM20P-03	KDM20S-03	
	ø 1/4"	KDM20P-07	KDM20S-07	
	ø 5/16"	KDM20P-09	KDM20S-09	

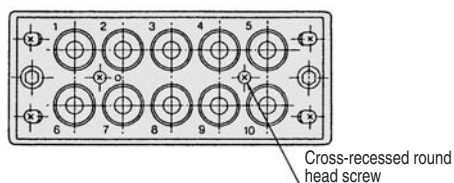
## Mixed Sizes of Plug Connectors and Socket Connectors

The rectangular multi-connector permits connector exchange in any desired position, thus allowing use of different sizes of tubes.

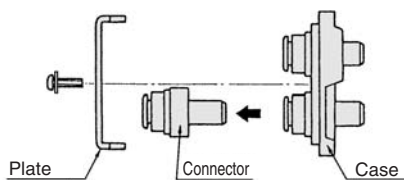
## Model

Connector	Tubing O.D.	Model	Color of release button
Plug connector	ø 1/8"	KDMP-01	Red
	ø 5/32"	KDMP-03	
	ø 1/4"	KDMP-07	
	ø 5/16"	KDMP-09	
Socket connector (with seal)	ø 1/8"	KDMS-01	
	ø 5/32"	KDMS-03	
	ø 1/4"	KDMS-07	
	ø 5/16"	KDMS-09	

1. Loosen the cross-recessed head machine screw by using a Phillips screwdriver to remove the plate from the case.



2. After exchanging connectors in desired places, fix the plate to the case by using a Phillips screwdriver.

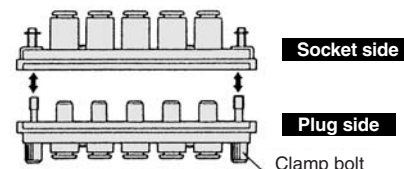


## How to Use

### ⚠ Caution

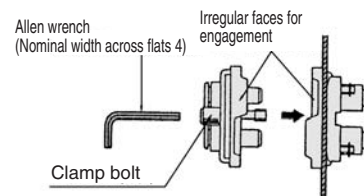
#### Separation

Loosen the clamp bolt to separate the plug side from the socket side.



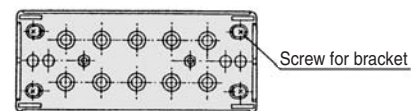
#### Connection

Put together the irregular faces for engagement and connect the plug case to the socket. After tightening the clamp bolt by hand, tighten it further with allen wrench (nominal width across flats: 4).

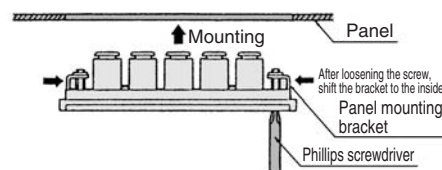


#### Panel mounting

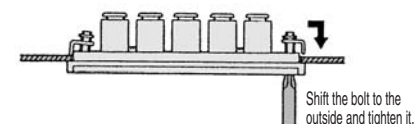
1. Loosen (4) screws for bracket on the socket side using a Phillips screwdriver (JIS nominal No. 2) until the bracket touches the stop ring.



2. Shift the panel mounting bracket to the inside (Move the screw for bracket in the longitudinal direction of the slot) and put the connector in the panel mounting hole. (Panel-mounting hole: See Dimensions.)



3. After shifting the bolt for bracket to the outside, tighten the bolt by a Phillips screwdriver to fix the socket case.



4. Loosen the screw for bracket until the bracket touches the stop ring and shift the bracket to the inside to remove the connector from the panel.

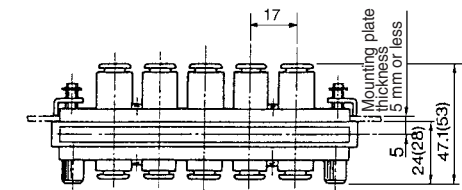


# Series KDM

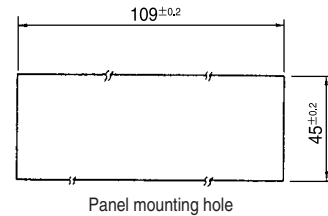
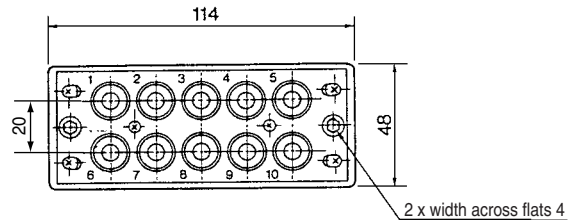


## Dimensions

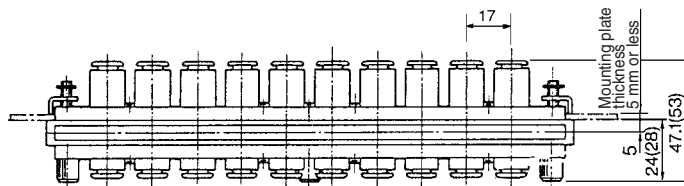
### KDM10



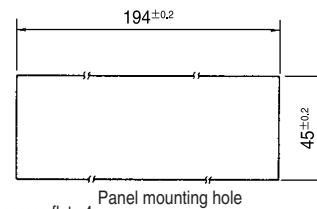
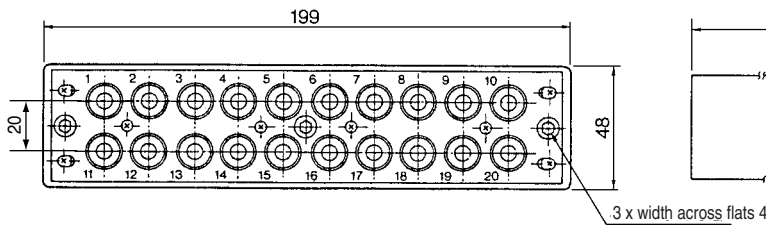
( ): Dimensions for KDM10-09



### KDM20



( ): Dimensions for KDM20-09



## Handling of One-touch Fittings

### ⚠ Caution

Refer to "Fittings & Tubing Precautions" for the details of installation/removal of One-touch fittings on the page 15.



## 1 Grease-free Specifications

Symbol	Specifications
<b>X17</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
<b>X39</b>	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double package)

Suffix "-X17" to the end of part number.

Example) **KDM10-03-X17**

## 2 Other Specifications

Symbol	Specifications
<b>X12</b>	Lubricant: White Vaseline Release button color: White

## 3 Mixed Tubing Size Type

### ■ Mixed Tubing Size Type

Mixed tubing size manifolds are available to meet your individual requirements. Please consult with SMC for availability.

**K** ☐

**M** ☐

**H** ☐

**KK** ☐

**D** ☐

**MS** ☐

**LQ** ☐

**MQR** ☐

**T** ☐