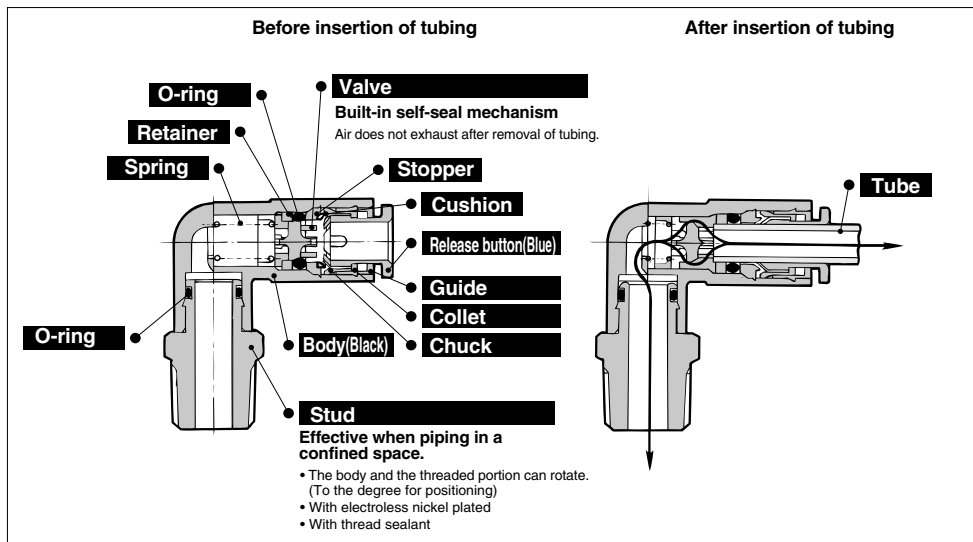


# Self-seal Fittings KC Series

RoHS



**One-touch fitting (built-in self-seal mechanism) to prevent air exhaust when removing tube.**

**Best for multiple use areas when pressure cannot be shut down.**

**10 types are available.**

**Electroless nickel plated for copper-free applications.**

**Sealant is standard.**



## Applicable Tubing

Tubing material	Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

## Specifications

Fluid		Air
Maximum operating pressure		1 MPa
Proof pressure		3 MPa
Ambient and fluid temperature		-5 to 60°C (No freezing)
Thread	Mounting section	JIS B 0203 (Taper thread for piping) JIS B 0205 (Metric fine thread)
	Nut section	JIS B 0205 (Metric fine thread)
	Seal on the threads (Standard)	With thread seal
Copper-free (Standard)		Brass parts are all electroless nickel plated

## Principal Parts Material

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



KQ2

KQB2

KS  
KX

KM

KF

M

H/DL  
L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

# KC Series

## Model

### Male connector

KCH P. 209



Use to pipe in the same direction from female thread.

### Straight union

KCH P. 211



Use to connect tubes in the same direction. One of two ports has a self-seal function.

### Male elbow

KCL P. 209



Use to pipe at right angles to female thread.

### Straight plug for frequent use

KCH P. 211



It can save tube cutting labor in the case of frequent tube installation and removal. Use to connect a self-seal fitting and a tube in the same direction.

### Union tee

KCT P. 209



Use to connect tubes in both 90° directions.

### Elbow plug for frequent use

KCL P. 211



It can save tube cutting labor in the case of frequent tube installation and removal. Use to connect a self-seal fitting and a tube at the right angles to a self-seal fitting.

### Union "Y"

KCU P. 210



Use to branch line in the same direction. 2 branched ports has a self-seal function.

### Check adaptor

KCJ P. 210



Use to add the self-seal mechanism to the usual One-touch fittings, KQ series.

### Bulkhead union

KCE P. 210



Use to connect tubes through a panel. One of two ports has a self-seal function.

### Bulkhead connector

KCE P. 210



Use to connect male thread and tube through a panel.

## Male Connector: KCH

<M5>



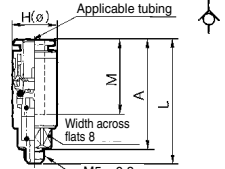
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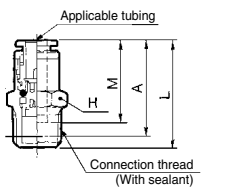
Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	L	A*	M	Effective area (mm <sup>2</sup> )		Weight (g)
							Nylon	Urethane	
4	M5 x 0.8	KCH04-M5	9.8	30.8	27.3	18	2.1	2.1	8
	1/8	KCH04-01S	10	26.1	22.1		2.6	2.6	
6	M5 x 0.8	KCH06-M5	11.8	32.4	28.9	19.5	2.4	2.4	10
	1/8	KCH06-01S	12	37.4	33.4		6.8	6.8	16
	1/4	KCH06-02S	14	28.9	22.9	19			14
	1/8	KCH08-01S		42.4	38.4				20
8	1/4	KCH08-02S	14	45.7	39.7	21.5	16.2	13.1	27
	3/8	KCH08-03S	17	34	27.5				25
	1/4	KCH10-02S	17	50.5	44.5	24	25.6	20.4	34
10	3/8	KCH10-03S		51.5	45				43
	3/8	KCH12-03S	19	54.2	47.7	25.5	35.4	30.4	48
12	1/2	KCH12-04S	22	41.6	33.6				41

\* Reference dimensions after R thread installation.

<M5>



<R>



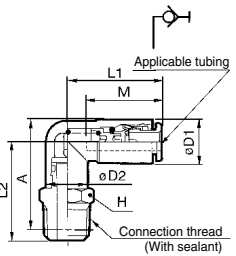
## Male Elbow: KCL



Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	Note) øD1	øD2	L1	L2	A*	M	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
4	M5 x 0.8	KCL04-M5	8	10.4	8	25.3	16.7	18.4	18	1.9	1.9	6
	1/8	KCL04-01S	10		10		22.1	24.2		2.3	2.3	11
6	M5 x 0.8	KCL06-M5	8	12.8	8	26.8	17.4	20.3	19.5	2.2	2.2	7
	1/8	KCL06-01S	12		12	28	24.2	27.5	19	6.2	6.2	13
	1/4	KCL06-02S	14				28.6	29.5				21
	1/8	KCL08-01S					26.2	30.7				16
8	1/4	KCL08-02S	14	15.2	14	34.1	30.6	32.7	21.5	13.0	10.5	24
	3/8	KCL08-03S	17				30	34.2				37
	1/4	KCL10-02S	17		18.5	17	33.4	37.2	24	19.5	16.5	29
10	3/8	KCL10-03S		20.9	20.9	40.7	34.8	38.7				38
	3/8	KCL12-03S					39.2	44.3	25.5	24.8	21.3	63
12	1/2	KCL12-04S	22				42.3	45.7				81

\* Reference dimensions after R thread installation.

Note) øD1: Max. diameter

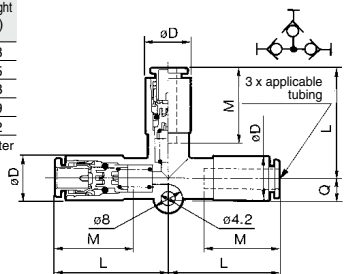


## Union Tee: KCT



Applicable tubing O.D. (mm)	Model	Note) øD	L	Q	M	Effective area (mm <sup>2</sup> )		Weight (g)
						Nylon	Urethane	
4	KCT04-00	10.4	28.6	5.3	18	2.8	2.8	8
6	KCT06-00	12.8	32.7	6.1	19	7.6	7.6	15
8	KCT08-00	15.2	39.2	7.1	21.5	13.7	11.1	23
10	KCT10-00	18.5	45.5	7.9	24	21.1	19.0	39
12	KCT12-00	20.9	49.2	8.6	25.5	28.3	24.3	52

Note) øD: Max. diameter



[Click here for applicable color caps.](#)

KQ2

KQB2

KS  
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L/LL

KC

KK

KK130

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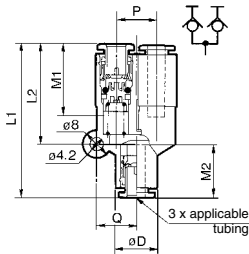
# KC Series

## Union “Y”: KCU



Applicable tubing O.D. (mm)	Model	Note) øD	L1	L2	P	Q	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
4	KCU04-00	10.4	43.1	27.3	10.4	10.6	18	16	3.7	3.7	8
6	KCU06-00	12.8	48	31.2	12.8	12.5	19	17	10.0	10.0	14
8	KCU08-00	15.2	57.6	38.9	15.2	14.7	21.5	18.5	21.7	15.1	22
10	KCU10-00	18.5	65.2	44.9	18.5	17.1	24	21	33.3	25.6	37
12	KCU12-00	20.9	70.1	48.8	20.9	19.1	25.5	22	48.9	38.7	49

Note) øD: Max. diameter



## Check Adaptor: KCJ

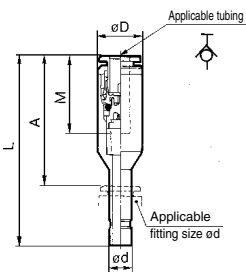


Applicable tubing O.D. (mm)	Model	Applicable fitting size ød	Note) øD	L	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
							Nylon	Urethane	
4	KCJ04-99	4	9.8	49.5	33.5	18	2.6	2.6	9
6	KCJ06-99	6	11.8	54	37	19	6.8	6.8	13
8	KCJ08-99	8	14	61	42.5	21.5	16.2	13.1	20
10	KCJ10-99	10	17	70.4	49.4	24	25.6	20.4	33
12	KCJ12-99	12	19	74.4	52.4	25.5	35.4	30.4	43

Note) øD: Max. diameter

### Connecting products with metal rods

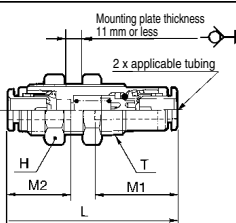
Products with metal rods cannot be connected to Series KQ2 One-touch fittings. If connected, the metal rod cannot be retained by the chuck of the One-touch fitting and products with metal rods may project during pressurization, causing serious personal injury or accident.



## Bulkhead Union: KCE



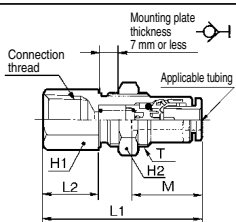
Applicable tubing O.D. (mm)	Model	T (M)	H (width across flats)	L	Mounting hole	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
								Nylon	Urethane	
4	KCE04-00	M12 x 1	14	42	13	18	16	2.6	2.6	21
6	KCE06-00	M14 x 1	17	45.5	15	19	17	6.8	6.8	30
8	KCE08-00	M16 x 1	19	52.5	17	21.5	18.5	16.2	13.1	39
10	KCE10-00	M20 x 1	24	59.5	21	24	21	25.6	20.4	84
12	KCE12-00	M22 x 1	27	63.2	23	25.5	22	35.4	30.4	115



## Bulkhead Connector: KCE



Applicable tubing O.D. (mm)	Connection thread Rc	Model	T (M)	H1 (width across flats)	H2 (width across flats)	L1	L2	Mounting hole	M	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
4	1/4	KCE04-02	M12 x 1	17	14	40.5	14.7	13	18	2.6	2.6	32
6	1/4	KCE06-02	M14 x 1	17	17	42.7	14.7	15	19	6.8	6.8	36
8	3/8	KCE08-03	M16 x 1	19	19	49.4	15	17	21.5	16.2	13.1	42
10	3/8	KCE10-03	M20 x 1	22	24	53.9	14.2	21	24	25.6	20.4	79
12	3/8	KCE12-03	M22 x 1	24	27	56.1	13.7	23	25.5	35.4	30.4	105



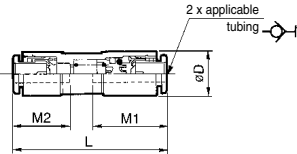
[Click here for applicable color caps.](#)

**Straight Union: KCH**



Applicable tubing O.D. (mm)	Model	Note) øD	L	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
						Nylon	Urethane	
4	KCH04-00	10.4	42.1	18	16	2.6	2.6	5
6	KCH06-00	12.8	45.8	19	17	6.8	6.8	7
8	KCH08-00	15.2	52.8	21.5	18.5	16.2	13.1	10
10	KCH10-00	18.5	59.8	24	21	25.6	20.4	18
12	KCH12-00	20.9	63.5	25.5	22	35.4	30.4	24

Note) øD: Max. diameter

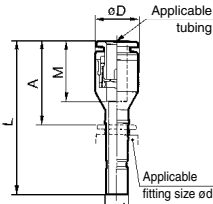


**Straight Plug for Frequent Use:KCH**



Applicable tubing O.D. (mm)	Model	Applicable fitting size ød	Note) øD	L	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
							Nylon	Urethane	
4	KCH04-99	4	9.8	40.6	22.6	16	5.6	4	5
6	KCH06-99	6	11.8	43.1	24.1	17	13.1	10.4	8
8	KCH08-99	8	14	46.7	25.2	18.5	26.1	18.0	11
10	KCH10-99	10	17	52.6	28.6	21	41.5	29.5	18
12	KCH12-99	12	19	54.9	29.4	22	58.3	46.1	24

Note) øD: Max. diameter

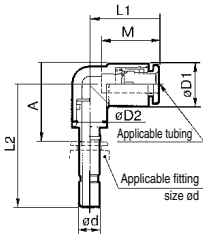


**Elbow Plug for Frequent Use: KCL**



Applicable tubing O.D. (mm)	Model	Applicable fitting size ød	Note) øD1	Note) øD2	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
4	KCL04-99	4	10.4	10	18	34.3	22.6	16	4.2	4.2	7
6	KCL06-99	6	12.8	10	20	36.5	24.1	17	11.4	9.0	8
8	KCL08-99	8	15.2	12	23	40.3	25.2	18.5	21.6	14.9	12
10	KCL10-99	10	18.5	17	26.5	44.3	28.6	21	35.2	25.0	25
12	KCL12-99	12	20.9	17	28.5	46.8	29.4	22	50.2	39.7	30

Note) øD1, øD2: Max. diameter



[Click here for applicable color caps.](#)

KQ2

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# KC Series/Specific Product Precautions

Be sure to read this before handling the products.

Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

## No. of Insertions and Removals from Self-seal Fittings

### ⚠ Caution

1. The number of insertions and removals as a rough guide is as follows.

- Tube.....300 times
- Metal stem.....1000 times

Self-seal fittings that have once been attached to connecting plugs cannot be used for tube connection.

It cannot be secured and the fittings will be lurch.

## Installation of Self-seal Fittings

### ⚠ Caution

1. The fitting should be installed (installation of R thread portion) by screwing with a spanner at the hexagonal portion of the body. The position of spanner should be a root as close as possible to R thread.

Hex. across flats may be deformed, if using an improper wrench for hex. across flats.

## Tightening the Thread Portion of an M5 Size Fittings

### ⚠ Caution

1. First, tighten it by hand, then give it an additional 1/6 turn with the wrench.

Excessive tightening may damage the threaded portion or deform the gasket to cause air leakage. Insufficient tightening may leave the thread loosened or cause air leakage.

## Mounting/Piping

### ⚠ Caution

1. When mounting tubes, resin plugs, reducers, etc., do not press the release button. This may cause those parts to come off.

In particular, be aware that when products, such as plug-in elbows or reducers, etc. are mounted, the release button of the fitting on the connection side may be pressed easily due to product handling during piping work.

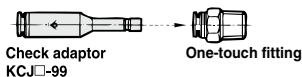
## Distinction of Plug and Applicable Fittings

### ⚠ Caution

1. The applicable fitting should be chosen depending on the type of plug.

#### ● Check Adaptor

How to use: Use it for addition of self-seal mechanism to a standard One-touch fitting. Self-seal fittings with check adaptor are not available. It causes air leakage.



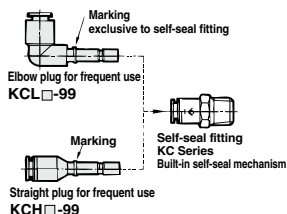
#### ● Elbow plug for frequent use, straight plug for frequent use.

How to use: For use in the case of frequent tube installation and removal, tube cutting labor can be saved.

These plugs cannot be connected to One-touch fittings other than self-seal fittings KC series.

If connected, the metal rod cannot be retained by the chuck of the One-touch fitting and elbow plug for frequent use/straight plug for frequent use may project during pressurization, causing serious personal injury or accident.

Note the exclusive marking for self-seal fittings before use.



## 2. Connecting products with metal rods

Products with metal rods cannot be connected to KQ2 series One-touch fittings.

If connected, the metal rod cannot be retained by the chuck of the One-touch fitting and products with metal rods may project during pressurization, causing serious personal injury or accident.

After attaching products with attached metal rods, to the One-touch fitting, do not use tubes, resin plugs, or reducers, etc. This may cause releasing.

For details about One-touch fittings that can connect KCJ model, contact SMC.

## Tube Insertion and Removal under Pressurized Condition

### ⚠ Caution

1. When inserting/removing the tubing is difficult under a pressurized condition, it should be inserted or removed by lowering the pressure or after fully exhausting.