

# Miniature One-touch Fittings

## One-touch Mini

# Series KJ



Applicable Tubing:  $\varnothing 3.2$ ,  $\varnothing 4$ ,  $\varnothing 6$   
 Connection Thread: M3, M5, R 1/8

**Guide 1**

**Guide 2**

**Chuck**  
 Suitable for use with nylon, soft nylon and urethane.  
 Large retaining force.  
 Has large retaining force.

**Seal**  
 Can be used for a wide range of pressures from a low vacuum up to a pressure of 1.0 MPa  
 The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

**Gasket**

**Release button (Light gray)**  
**Light force for removal**  
 When the fitting is removed from the tubing, the chuck and collet are released, thus preventing them from biting into the tube to an unnecessary degree. Unique shape allows easy tube release.

**Tube**

**Body (White)**

**O-ring**

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

- The body and the threaded portion can rotate (for positioning to some extent).
- Stud is electroless nickel plated.
- Standard with preapplied thread seal 1/8

PAT.PEND

- K
- M
- H
- D
- MS
- T
- VMG

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

**Thread seal is standard.**

**Copper-free specifications (With electroless nickel plated.)**

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



### Applicable Tubing

Tubing material	Nylon, Soft nylon, Polyurethane
Tubing O.D.	$\varnothing 3.2$ , $\varnothing 4$ , $\varnothing 6$


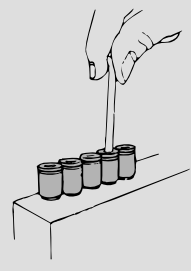

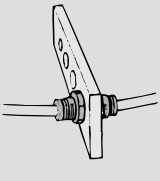

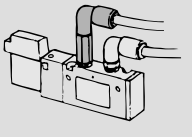


















### Specifications

Fluid	Air/Water <sup>Note)</sup>	
Maximum operating pressure	1.0 MPa	
Operating vacuum pressure	-100 kPa	
Proof pressure	3.0 MPa	
Ambient and fluid temperature	-5 to 60°C, Water: 0 to 40°C (No freezing)	
Thread	Mounting section	JIS B 0203 (Taper thread for piping) JIS B 0209, Class 2 (Metric coarse thread)
	Nut section	JIS B 0211 Class 2 (Metric fine thread)
Thread seal (Standard)	With thread seal	
Copper-free (Standard)	Brass parts are all electroless nickel plated.	

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

### Principal Parts Material

Body	Stainless steel 303, C3604BD, PBT
Stud	C3604BD (Thread portion)
Chuck, Guide 2	Stainless steel 304
Release button, Guide 1	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

Model					
<b>Hex. socket head male connector</b> KJS	P. 4		Internal hex. allows thread connection by using an allen wrench for confined spaces.		
<b>Bulkhead union</b> KJE	P. 9		Use to connect tubes through a panel.		
<b>Extended male elbow</b> KJW	P. 6		Universal male elbow allows thread connection by using a socket wrench for confined spaces.		
<b>Male connector</b> KJH	P. 4		Use to pipe in the same direction from female thread. Most general style.		
<b>Female connector</b> KJF	P. 4		Use to pipe from male thread such as pressure gauge.		
<b>Straight union</b> KJH	P. 4		Use to connect tubes in the same direction.		
<b>Different diameter straight</b> KJH	P. 5		Use to connect different sized tubes.		
<b>Male elbow</b> KJL	P. 5		Use to pipe at right angles to female thread. Most general style.		
<b>Union elbow</b> KJL	P. 5		Use to connect tubes at right angles.		
<b>Plug-in elbow</b> KJL	P. 5		Use to change by 90° in a tube fetching direction from One-touch fittings.		
<b>Reducer elbow</b> KJL	P. 6		Use to change by 90° in a tube fetching direction from One-touch fittings and to size down.		
<b>Male branch tee</b> KJT	P. 6		Use to branch line from female thread in both 90° directions.		
<b>Union tee</b> KJT	P. 7		Use to connect tubes in both 90° directions.		
<b>Different diameter tee</b> KJT	P. 7		Use to connect tubes with size down in both 90° directions.		
<b>Male run tee</b> KJY	P. 7		Use to branch line in the same direction from female thread and in 90° direction.		
<b>Union "Y"</b> KJU	P. 8		Use to branch line in the same direction.		
<b>Different dia. union "Y"</b> KJU	P. 8		Use to branch line with size down in the same direction.		
<b>Plug-in "Y"</b> KJU	P. 8		Use to branch line in the same direction from One-touch fittings.		
<b>Different diameter plug-in "Y"</b> KJX	P. 8		Use to branch line with size down in the same direction from One-touch fittings.		
<b>Branch "Y"</b> KJU	P. 9		Use to branch line in the same direction from female thread.		
<b>Plug-in reducer</b> KJR	P. 9		Use to change size of One-touch fittings.		

Gasket/Seal for M5 thread

Part no.: M-5G2

Material: Stainless steel 304, NBR

- K
- M
- H
- D
- MS
- T
- VMG

## ⚠ Precautions

Be sure to read before handling.  
Refer to pages 15-18-3 to 15-18-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 15-1-10 to 15-1-11 for Precautions on every series.

### Interchangeability of Series KJ and KQ

#### ⚠ Caution

- Do not use the plug-in KQ Series with the KJ Series, it will not hold.
- For combinations other than the plug-in KQs, they are interchangeable.

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

#### ⚠ Caution

##### Installing of tube

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


##### Removing of tube

(Use one hand for removal.)

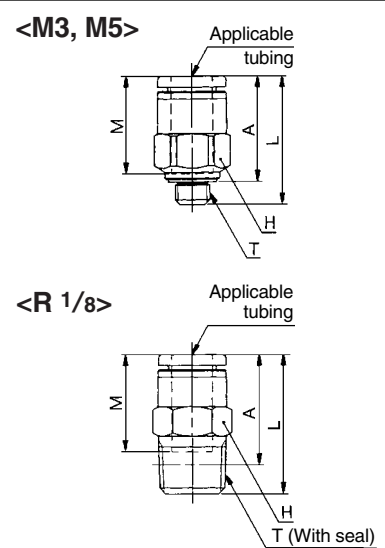
- Hold the release button with the thumb and forefinger.
- Grasp the tube with the remaining three fingers and palm.
- Then, pull out the tube with three fingers and palm while pushing in the release button with the thumb and the forefinger.
- To reuse the released tube, cut off the damaged portion of the tube.

# Series KJ


## Male Connector: KJH

<M3, M5>	Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	L	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
								Nylon	Urethane	
	3.2	M3 x 0.5	<b>KJH23-M3</b>	7	16.3	13.7	12.7	0.9	0.9	1.6
		M5 x 0.8	<b>KJH23-M5</b>		16.7	13.6		2		
		R 1/8	<b>KJH23-01S</b>	10	13.8	9.8*	3	2.5	4.7	
<R 1/8>	4	M3 x 0.5	<b>KJH04-M3</b>	8	16.3	13.7	12.7	0.9	0.9	1.9
		M5 x 0.8	<b>KJH04-M5</b>		17	13.9		2.4		
		R 1/8	<b>KJH04-01S</b>	10	14.8	10.8*	4	4	4.6	
	6	M5 x 0.8	<b>KJH06-M5</b>	10	17.8	14.7	13.5	4	4	3.3
		R 1/8	<b>KJH06-01S</b>		19.4	15.4*		10	10	5.2

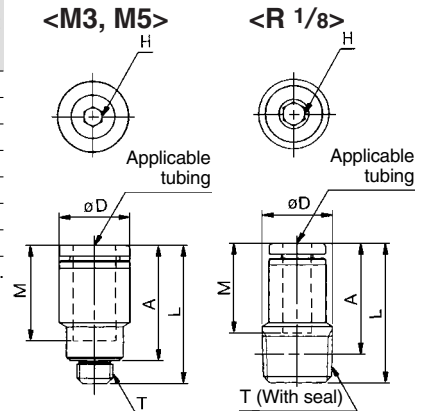
\* Reference dimensions after R thread installation.



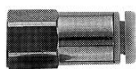
## Hexagon Socket Head Male Connector: KJS

<M3, M5>	Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	Note) $\phi D$	L	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
	3.2	M3 x 0.5	<b>KJS23-M3</b>	1.5	7	16.3	13.7	12.7	1.4	1.4	1.3
		M5 x 0.8	<b>KJS23-M5</b>	2		19.7	16.6		2.5	2.5	2.8
<R 1/8>	4	M3 x 0.5	<b>KJS04-M3</b>	1.5	8	16.3	13.7	12.7	1.4	1.4	1.6
		M5 x 0.8	<b>KJS04-M5</b>	2.5		18.7	15.6		4	4	2.7
		R 1/8	<b>KJS04-01S</b>	3	9.8	19.7	15.7*	5.4			
	6	M5 x 0.8	<b>KJS06-M5</b>	2.5	10	19.5	16.4	13.5	4	4	3.3
		R 1/8	<b>KJS06-01S</b>	4		20	16*		10	10	5.2

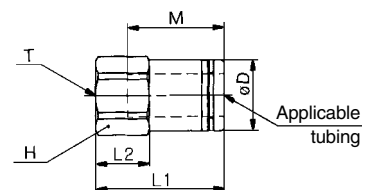
\* Reference dimensions after R thread installation. Note)  $\phi D$ : Max. diameter




## Female Connector: KJF

	Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	Note) $\phi D$	L1	L2	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
	3.2	M3 x 0.5	<b>KJF23-M3</b>	7	7	16.5	6.8	12.7	3	2.5	2.6
		M5 x 0.8	<b>KJF23-M5</b>			18.8	7.9		2.8		
	4	M3 x 0.5	<b>KJF04-M3</b>	8	8	16.1	6.4	12.7	4	4	3.2
		M5 x 0.8	<b>KJF04-M5</b>			18.7	7.8		3.8		
	6	M5 x 0.8	<b>KJF06-M5</b>	10	10	18	7.5	13.5	10	10	5.3

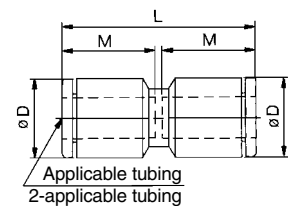
Note)  $\phi D$ : Max. diameter




## Straight Union: KJH

	Applicable tubing O.D. (mm)	Model	Note) $\phi D$	L	M	Effective area (mm <sup>2</sup> )		Weight (g)
						Nylon	Urethane	
	3.2	<b>KJH23-00</b>	8.4	26.3	12.7	3	2.5	1.4
	4	<b>KJH04-00</b>	9.3	26.3	12.7	4	4	1.7
	6	<b>KJH06-00</b>	11.6	28	13.5	10	10	2.5

Note)  $\phi D$ : Max. diameter

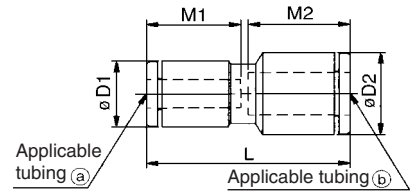


## Different Diameter Straight: KJH



Applicable tubing O.D. (mm)		Model	Note) $\phi D1$	Note) $\phi D2$	L	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
(a)	(b)							Nylon	Urethane	
3.2	4	KJH23-04	8.4	9.3	26.3	12.7	12.7	3	2.5	1.6
	6	KJH23-06		11.6			27.2			13.5
4	6	KJH04-06	9.3	11.6	27.2	12.7	13.5	4	4	2.2

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



## Male Elbow: KJL

<M3, M5>



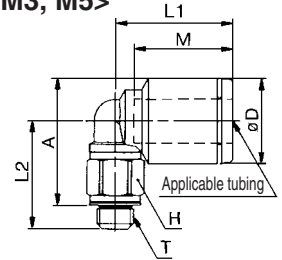
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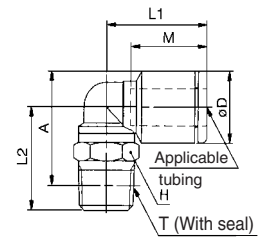
Applicable tubing O.D. (mm)	Connection threads T	Model	H (width across flats)	Note) $\phi D$	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)			
									Nylon	Urethane				
3.2	M3 x 0.5	KJL23-M3	7	8.4	15.3	12.5	14.1	12.7	0.8	0.8	2.1			
	M5 x 0.8	KJL23-M5							13.2	14.3	2.5			
	R 1/8	KJL23-01S							15.2	15.4*	6.7			
4	M3 x 0.5	KJL04-M3	7	9.3	15.6	13	15.1	12.7	0.8	0.8	2.2			
	M5 x 0.8	KJL04-M5							13.7	15.3	2.7			
	R 1/8	KJL04-01S							15.7	16.4*	6.8			
6	M5 x 0.8	KJL06-M5	7	11.6	16.1	14.7	17.4	13.5	3.5	3.5	3.2			
	R 1/8	KJL06-01S							17.8	16.7	18.5*	9	9	6.4

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

<M3, M5>



<R 1/8>

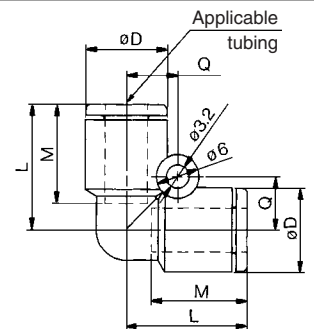


## Union Elbow: KJL



Applicable tubing O.D. (mm)	Model	Note) $\phi D$	L	Q	M	Effective area (mm <sup>2</sup> )		Weight (g)
						Nylon	Urethane	
3.2	KJL23-00	8.4	15	5.8	12.7	2.6	2.2	1.6
4	KJL04-00	9.3	15.8	6.3	12.7	3.5	3.5	2
6	KJL06-00	11.6	17.1	7.3	13.5	9	9	3.1

Note)  $\phi D$ : Max. diameter

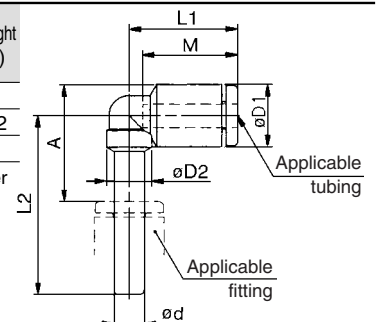


## Plug-in Elbow: KJL



Applicable tubing O.D. (mm)	Applicable fitting size $\phi d$	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	3.2	KJL23-99	8.4	6	14.5	23.8	15.3	12.7	2.6	2.2	1
4	4	KJL04-99	9.3	6	15.6	24.7	16.7	12.7	3.5	3.5	1.2
6	6	KJL06-99	11.6	7	16.3	26.8	19.1	13.5	9	9	2

Note)  $\phi D1$ : Max. diameter



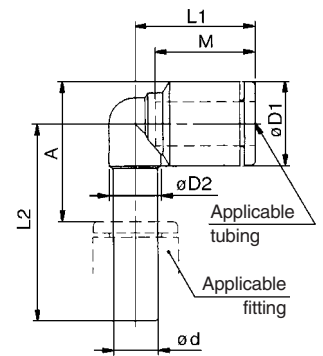
# Series KJ

## Reducer Elbow: KJL



Applicable tubing O.D. (mm)	Applicable fitting size $\phi d$	Model	(Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	4	<b>KJL23-04</b>	8.4	6	14.5	24.3	15.8	12.7	2.6	2.2	1.1
	6	<b>KJL23-06</b>				25.3	16				1.2
4	6	<b>KJL04-06</b>	9.3	6	15.6	25.7	16.9	12.7	3.5	3.5	1.4

Note)  $\phi D1$ : Max. diameter



## Extended Male Elbow: KJW

<M3, M5>



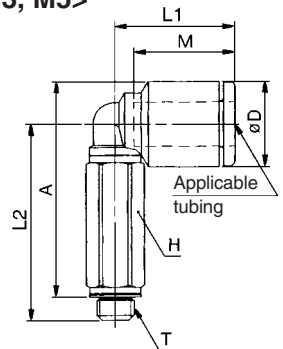
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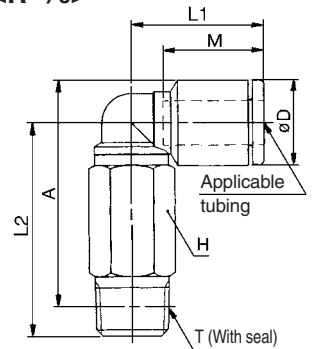
Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	(Note) $\phi D$	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	M3 x 0.5	<b>KJW23-M3</b>	7	8.4	15.3	22.5	24.1	12.7	0.8	0.8	5
	M5 x 0.8	<b>KJW23-M5</b>	10			25.2	26.3				6.2
	R 1/8	<b>KJW23-01S</b>	10			25.4*	25.4*				13.4
4	M3 x 0.5	<b>KJW04-M3</b>	7	9.3	15.6	23	25.1	12.7	0.8	0.8	5.1
	M5 x 0.8	<b>KJW04-M5</b>	10			25.7	27.3				6.4
	R 1/8	<b>KJW04-01S</b>	10			26.4*	26.4*				13.6
6	M5 x 0.8	<b>KJW06-M5</b>	7	11.6	16.1	26.7	29.4	13.5	3.5	3.5	6.9
	R 1/8	<b>KJW06-01S</b>	10			17.8	28.7				30.5*

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

<M3, M5>



<R 1/8>

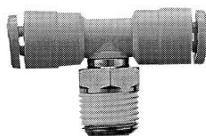


## Male Branch Tee: KJT

<M3, M5>



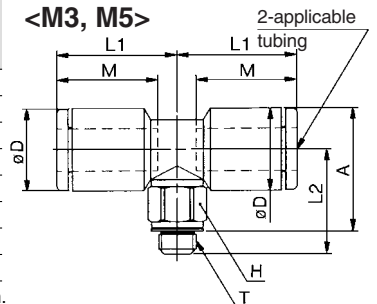
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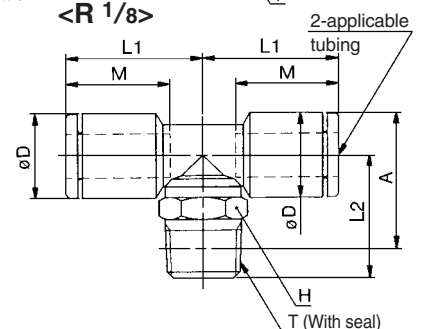
Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	(Note) $\phi D$	L1	L2	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	M3 x 0.5	<b>KJT23-M3</b>	7	8.4	15.3	12.5	14.1	12.7	0.9	0.9	2.8
	M5 x 0.8	<b>KJT23-M5</b>	10			13.2	14.3				3.2
	R 1/8	<b>KJT23-01S</b>	10			15.2	15.4*				7.4
4	M3 x 0.5	<b>KJT04-M3</b>	7	9.3	15.6	13	15.1	12.7	0.9	0.9	3.1
	M5 x 0.8	<b>KJT04-M5</b>	10			13.7	15.3				4.5
	R 1/8	<b>KJT04-01S</b>	10			15.7	16.4*				7.7
6	M5 x 0.8	<b>KJT06-M5</b>	7	11.6	16.1	14.7	17.4	13.5	4.5	4.5	4.4
	R 1/8	<b>KJT06-01S</b>	10			17.8	18.5*				11

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

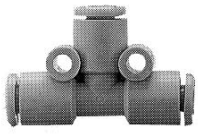
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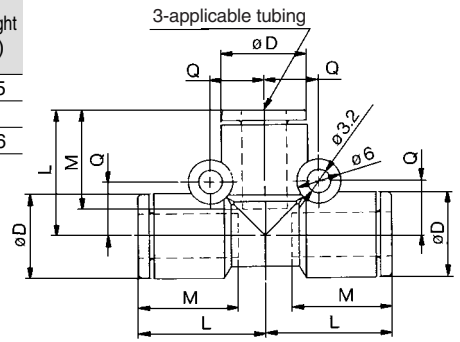


## Union Tee: KJT

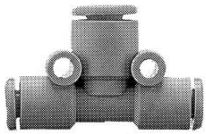


Applicable tubing O.D. (mm)	Model	Note) $\phi D$	L	Q	M	Effective area (mm <sup>2</sup> )		Weight (g)
						Nylon	Urethane	
3.2	<b>KJT23-00</b>	8.4	15	5.8	12.7	3.2	2.7	2.5
4	<b>KJT04-00</b>	9.3	15.8	6.3	12.7	4.5	4.5	3
6	<b>KJT06-00</b>	11.6	17.1	7.3	13.5	11	11	4.6

Note)  $\phi D$ : Max. diameter

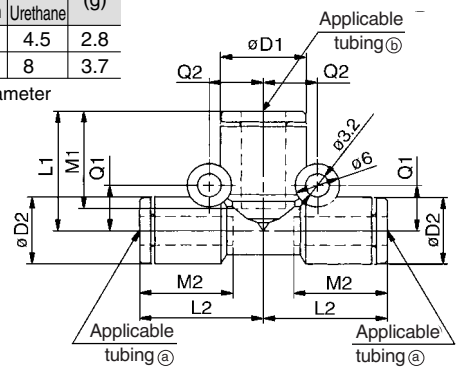


## Different Diameter Tee: KJT



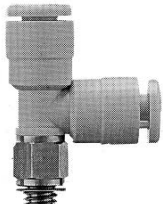
Applicable tubing O.D. (mm)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	Q1	Q2	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
a	b										Nylon	Urethane	
3.2	4	<b>KJT23-04</b>	9.3	8.4	15.3	15.8	5.8	6.3	12.7	12.7	4.5	4.5	2.8
4	6	<b>KJT04-06</b>	11.6	9.3	16.6	16.8	6.3	7.3	13.5	12.7	8	8	3.7

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

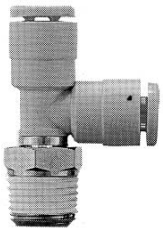


## Male Run Tee: KJY

<M3, M5>



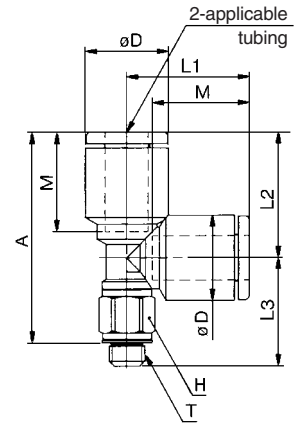
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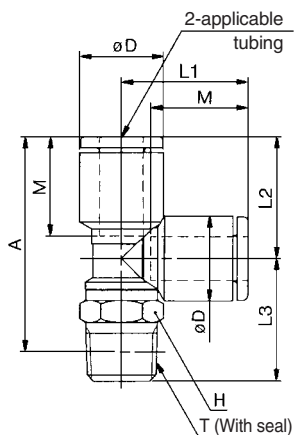
Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	Note) $\phi D$	L1	L2	L3	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
3.2	M3 x 0.5	<b>KJY23-M3</b>	7	8.4	15.4	14.8	12.5	24.7	12.7	0.9	0.9	2.8
	M5 x 0.8	<b>KJY23-M5</b>								3.2	2.7	7.4
	R 1/8	<b>KJY23-01S</b>								15.2	26*	
4	M3 x 0.5	<b>KJY04-M3</b>	7	9.3	15.6	14.8	13	25.2	12.7	0.9	0.9	3.1
	M5 x 0.8	<b>KJY04-M5</b>								4.5	4.5	3.5
	R 1/8	<b>KJY04-01S</b>								15.7	26.5*	7.7
6	M5 x 0.8	<b>KJY06-M5</b>	7	11.6	17.1	17.1	14.7	28.7	13.5	4.5	4.5	4.5
	R 1/8	<b>KJY06-01S</b>								17.5	16.6	16.7

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

<M3, M5>



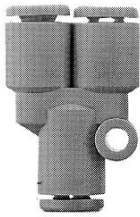
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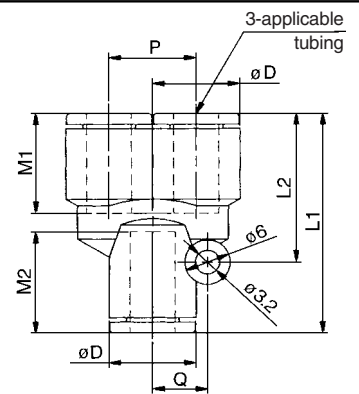
# Series KJ

## Union "Y": KJU

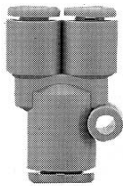


Applicable tubing O.D. (mm)	Model	Note) øD	L1	L2	P	Q	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	<b>KJU23-00</b>	8.4	28.5	19	8.4	5.8	12.7	12.9	3.2	2.7	2.6
4	<b>KJU04-00</b>	9.3	27.9	18.3	9.3	6.3	12.7	12.9	4.5	4.5	3
6	<b>KJU06-00</b>	11.6	31.2	21.6	11.6	7.3	13.5	13.7	11	11	4.7

Note) øD: Max. diameter

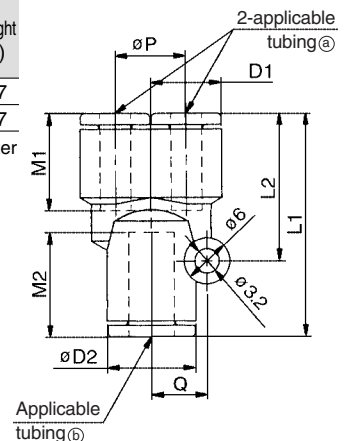


## Different Diameter Union "Y": KJU



Applicable tubing O.D. (mm)		Model	Note) øD1	Note) øD2	L1	L2	P	Q	M1	M2	Effective area (mm <sup>2</sup> )		Weight (g)
a	b										Nylon	Urethane	
3.2	4	<b>KJU23-04</b>	8.4	9.3	27.5	18.3	8.4	6.3	12.7	12.9	4.5	4.5	2.7
4	6	<b>KJU04-06</b>	9.3	11.6	29.2	19.3	9.3	7.3	12.7	13.7	8	8	3.7

Note) øD1, øD2: Max. diameter

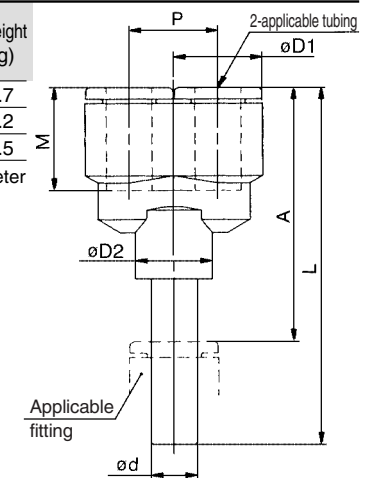


## Plug-in "Y": KJU

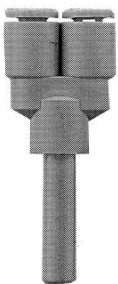


Applicable tubing O.D. (mm)	Applicable fitting size ød	Model	Note) øD1	øD2	L	P	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	3.2	<b>KJU23-99</b>	8.4	10	43.5	8.4	34.1	12.7	3.2	2.7	2.7
4	4	<b>KJU04-99</b>	9.3	10	44.7	9.3	35.3	12.7	4.5	4.5	3.2
6	6	<b>KJU06-99</b>	11.6	10	47.8	11.6	37.6	13.5	11	11	4.5

Note) øD1: Max. diameter

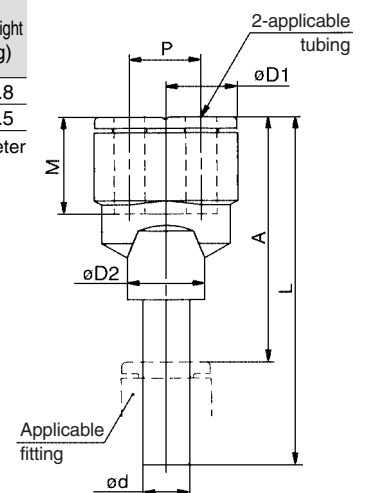


## Different Diameter Plug-in "Y": KJX



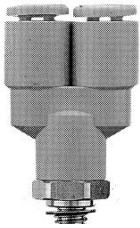
Applicable tubing O.D. (mm)	Applicable fitting size ød	Model	Note) øD1	øD2	L	P	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
									Nylon	Urethane	
3.2	4	<b>KJX23-04</b>	8.4	10	44	8.4	34.6	12.7	4.5	4.5	2.8
4	6	<b>KJX04-06</b>	9.3	10	45.7	9.3	35.5	12.7	8	8	3.5

Note) øD1: Max. diameter

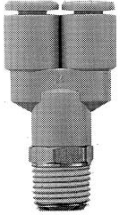


## Branch: KJU

<M5>



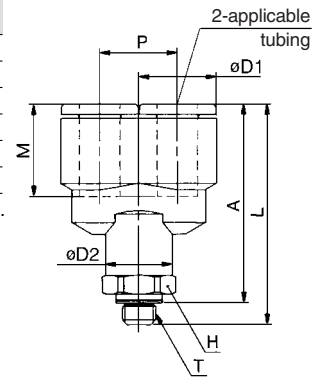
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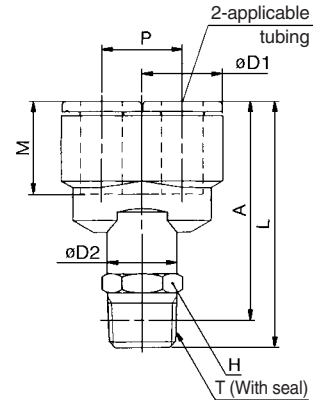
Applicable tubing O.D. (mm)	Connection thread T	Model	H (width across flats)	Note) øD1	øD2	L	P	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
										Nylon	Urethane	
3.2	M5 x 0.8	<b>KJU23-M5</b>	10	8.4	10	30.6	8.4	27.5	12.7	2.2	2.2	5.9
	R 1/8	<b>KJU23-01S</b>								3.2	2.7	8.3
4	M5 x 0.8	<b>KJU04-M5</b>	10	9.3	10	31.3	9.3	28.2	12.7	2.2	2.2	6.4
	R 1/8	<b>KJU04-01S</b>								4.5	4.5	8.8
6	M5 x 0.8	<b>KJU06-M5</b>	10	11.6	10	33.4	11.6	30.3	13.5	2.2	2.2	7.4
	R 1/8	<b>KJU06-01S</b>								11	11	9.9

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

<M5>



<R 1/8>



K□

M□

H□

D□

MS

T□

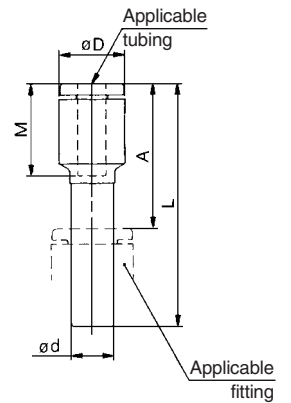
VMG

## Plug-in Reducer: KJR



Applicable tubing O.D. (mm)	Applicable fitting size ød	Model	Note) øD	L	A	M	Effective area (mm <sup>2</sup> )		Weight (g)
							Nylon	Urethane	
3.2	4	<b>KJR23-04</b>	8.4	32	19.3	12.7	3	2.5	0.9
	6	<b>KJR23-06</b>		33	19.5		1.1		
4	6	<b>KJR04-06</b>	9.3	33.5	20	12.7	4	4	1.3

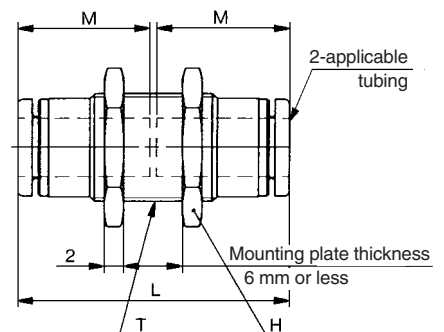
Note) øD: Max. diameter



## Bulkhead Union: KJE



Applicable tubing O.D. (mm)	Model	T	H (width across flats)	L	Mounting hole	M	Effective area (mm <sup>2</sup> )		Weight (g)
							Nylon	Urethane	
3.2	<b>KJE23-00</b>	M8 x 0.75	10	26	9	12.7	3	2.5	4.6
4	<b>KJE04-00</b>	M9 x 0.75	11	26	10	12.7	4	4	5.6
6	<b>KJE06-00</b>	M11 x 0.75	14	27.7	12	13.5	10	10	8.5

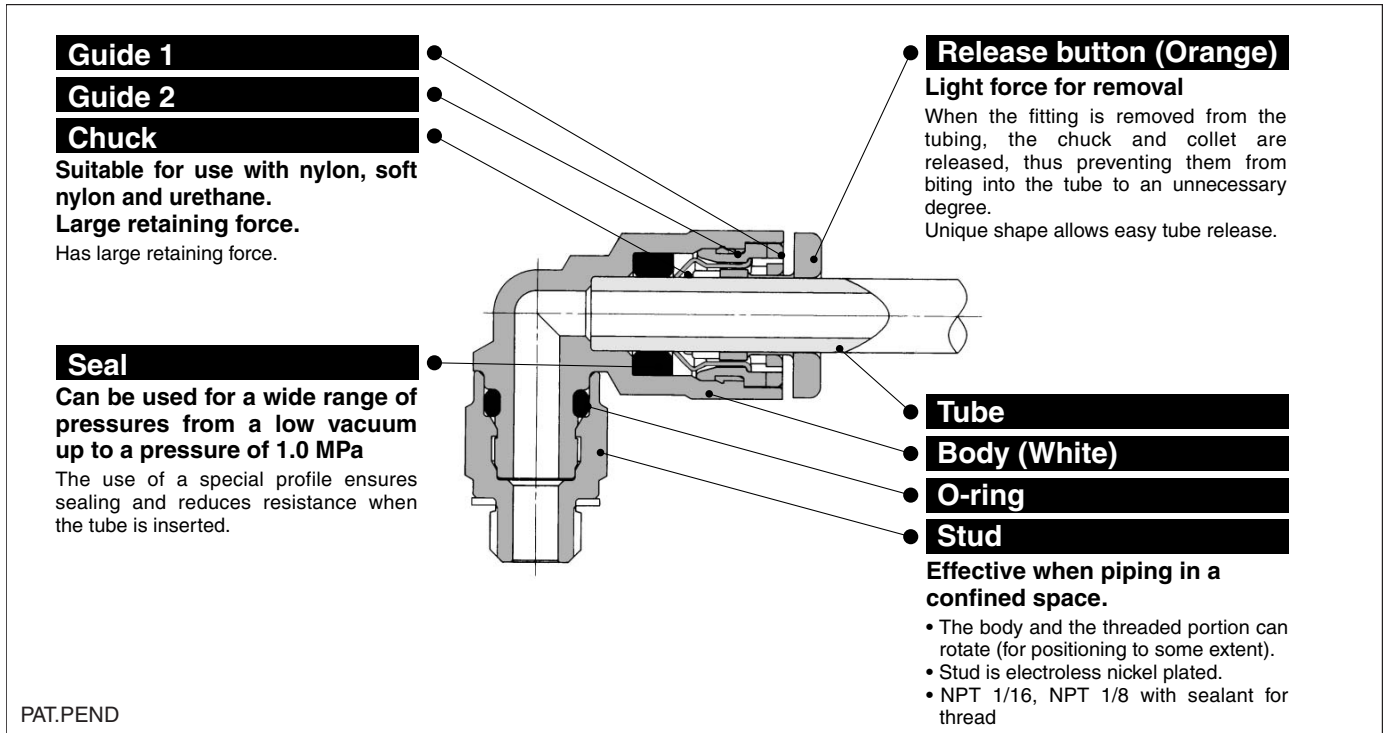




# Miniature One-touch Fittings Inch-size One-touch Mini Series KJ

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

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



- K
- M
- H
- D
- MS
- T
- VMG

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

Thread seal is standard.

Copper-free specifications (Electroless nickel plated)

Possible to use from vacuum -100 kPa



## Applicable Tubing

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

## Specifications


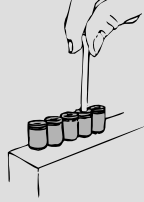

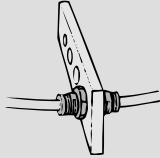
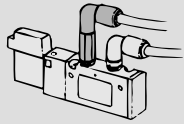
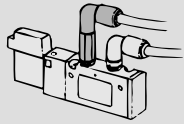


















Fluid	Air/Water <sup>Note)</sup>	
Maximum operating pressure	1.0 MPa	
Operating vacuum pressure	-100 kPa	
Proof pressure	3.0 MPa	
Ambient and fluid temperature	-5 to 60°C (Water: 0 to 40°C) (No freezing)	
Thread	Mounting section	ANSI/ASME B1.20.1-1983 (NTP thread) JIS B 0212 2A, Class 2B (UNF thread)
	Nut section	JIS B 0212 2A, Class 2B (UNF thread)
Thread seal (Standard)	With thread seal	
Copper-free (Standard)	Brass parts are all electroless nickel plated.	

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

## Principal Parts Material

Body	Stainless steel 303, C3604BD, PBT
Stud	C3604BD (Thread portion)
Chuck, Guide 2	Stainless steel 304
Release button, Guide 1	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

# Series KJ

Model		
<b>Hex. socket head male connector</b> <b>KJS</b> P. 3  	<b>Bulkhead union</b> <b>KJE</b> P. 8  	<b>Extended male elbow</b> <b>KJW</b> P. 5  
<b>Male connector</b> <b>KJH</b> P. 3 	<b>Plug-in elbow</b> <b>KJL</b> P. 4 	<b>Union "Y"</b> <b>KJU</b> P. 7 
<b>Female connector</b> <b>KJF</b> P. 3 	<b>Reducer elbow</b> <b>KJL</b> P. 5 	<b>Different dia. union "Y"</b> <b>KJU</b> P. 7 
<b>Straight union</b> <b>KJH</b> P. 3 	<b>Male branch tee</b> <b>KJT</b> P. 5 	<b>Plug-in "Y"</b> <b>KJU</b> P. 7 
<b>Different diameter straight</b> <b>KJH</b> P. 4 	<b>Union tee</b> <b>KJT</b> P. 6 	<b>Different diameter plug-in "Y"</b> <b>KJX</b> P. 7 
<b>Male elbow</b> <b>KJL</b> P. 4 	<b>Different diameter tee</b> <b>KJT</b> P. 6 	<b>Branch "Y"</b> <b>KJU</b> P. 8 
<b>Union elbow</b> <b>KJL</b> P. 4 	<b>Male run tee</b> <b>KJY</b> P. 6 	<b>Plug-in reducer</b> <b>KJR</b> P. 8 

Gasket/10-32 UNF seal on thread

Part no.: M-10/32G

Material: Stainless steel 304, NBR

## ⚠ Precautions

Be sure to read before handling. Refer to pages 15-18-3 to 15-18-4 for Safety Instructions and Common Precautions on the products mentioned in this catalog, and refer to pages 15-1-10 to 15-1-11 for Precautions on every series.

### Interchangeability of Series KJ and KQ

#### ⚠ Caution

- Do not use the plug-in KQ Series with the KJ Series, it will not hold.
- For combinations other than the plug-in KQs, they are interchangeable.

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

#### ⚠ Caution

##### Installing of tube


- 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.)
- Grasp the tube, then slowly push it until it comes to a stop.
- Then, pull it back gently to make sure that it does not come out.

##### Removing of tube

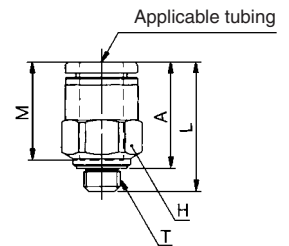
(Use one hand for removal.)

- Hold the release button with the thumb and forefinger.
- Grasp the tube with the remaining three fingers and palm.
- Then, pull out the tube with three fingers and palm while pushing in the release button with the thumb and the forefinger.
- To reuse the released tube, cut off the damaged portion of the tube.

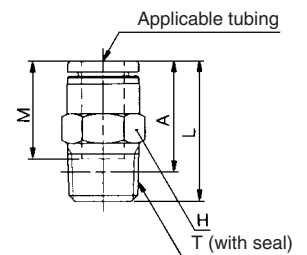
**Male Connector: KJH**

<10-32 UNF>	Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	L	A	M	Max. port size	Weight (g)
	1/8	10-32 UNF	<b>KJH01-32</b>	7	16.7	13.6	12.7	2.3	2
		1/16	<b>KJH01-33S</b>	9.5	18.8	14.8 *		2.5	5
		1/8	<b>KJH01-34S</b>	11.11	13.8	9.8 *		4.7	
	5/32	10-32 UNF	<b>KJH03-32</b>	8	17	13.9	12.7	2.3	2.4
		1/16	<b>KJH03-33S</b>	9.5	19.5	15.5 *		3	4.7
		1/8	<b>KJH03-34S</b>	11.11	14.8	10.8 *		4.6	
<NPT>	1/4	10-32 UNF	<b>KJH07-32</b>		18.4	15.3	13.6	2.3	3.3
		1/16	<b>KJH07-33S</b>	11.11	22	18 *		3.5	6.2
		1/8	<b>KJH07-34S</b>		18.4	14.4 *		4.6	5.2

<10-32 UNF>



<NPT>



<NPT>



\* Reference dimensions after NPT thread installation.

K□

M□

H□


D□

MS

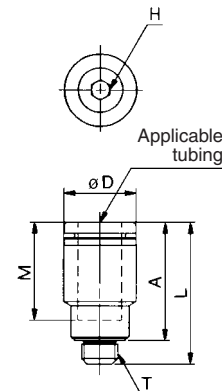
T□

VMG

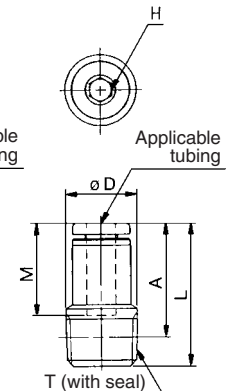
**Hexagon Socket Head Male Connector: KJS**

<10-32 UNF>	Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) øD	L	A	M	Min. port size	Weight (g)		
	1/8	10-32 UNF	<b>KJS01-32</b>	2	7	19.7	16.6	12.7	2	2.8		
		10-32 UNF	<b>KJS03-32</b>	2.5	8	18.7	15.6	2.5	2.7			
	5/32	1/16	<b>KJS03-33S</b>	2.78	10.3	19.6	15.6 *	12.7	2.8	4		
		1/8	<b>KJS03-34S</b>	5.4								
<NPT>	1/4	10-32 UNF	<b>KJS07-32</b>	2.5	10.3	19.6	16.5	13.6	2.5	3.3		
		1/16	<b>KJS07-33S</b>	3.57					21.1	17.1 *	3.6	5.8
		1/8	<b>KJS07-34S</b>	4.76					20.1	16.1 *	4.8	5.2

<10-32 UNF>



<NPT>



<NPT>

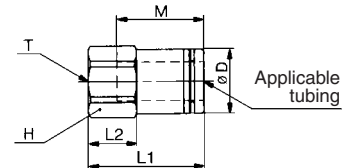


\* Reference dimensions after NPT thread installation.  
Note) øD: Max. diameter

**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	Weight (g)
1/8	10-32 UNF	<b>KJF01-32</b>	7	6.9	18.8	7.9	12.7	2.5	2.8
5/32	10-32 UNF	<b>KJF03-32</b>	8	7.9	18.7	7.8	12.7	3	3.8
1/4	10-32 UNF	<b>KJF07-32</b>	11.11	10.3	18	7.5	13.6	4	5.3

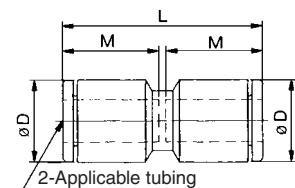
Note) øD: Max. diameter



**Straight Union: KJH**

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

Note) øD: Max. diameter



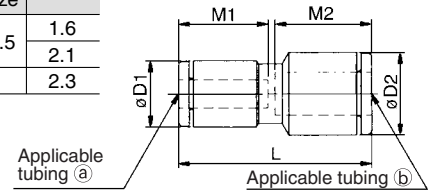
# Series KJ

## Different Diameter Straight: KJH



Applicable tubing O.D. (inch)		Model	Note)	Note)	L	M1	M2	Max. port size	Weight (g)
(a)	(b)		øD1	øD2					
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	1/4	KJH03-07	9.3	12	27.2	12.7	13.6	3	2.3

Note) øD1, øD2: Max. diameter



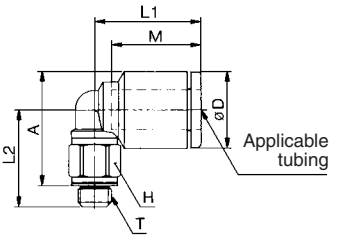
## Male Elbow: KJL

### <10-32 UNF>



Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note)	L1	L2	A	M	Min. port size	Weight (g)
				øD						
1/8	10-32 UNF	KJL01-32	7	8.4	15.3	13.2	14.3	12.7	2.3	2.5
	1/16	KJL01-33S	9.5			16.4	16.6 *			5.9
	1/8	KJL01-34S	11.11			15.4	15.6 *			6.7
5/32	10-32 UNF	KJL03-32	7	9.3	15.6	13.7	15.3	12.7	2.3	2.7
	1/16	KJL03-33S	9.5			16.9	17.6 *			4.5
	1/8	KJL03-34S	11.11			15.9	16.6 *			6.8
1/4	10-32 UNF	KJL07-32	7	12	16.1	15.1	18	13.6	2.3	3.2
	1/16	KJL07-33S	9.5			18.3	20.3 *			5.3
	1/8	KJL07-34S	11.11			17.8	19.3 *			6.4

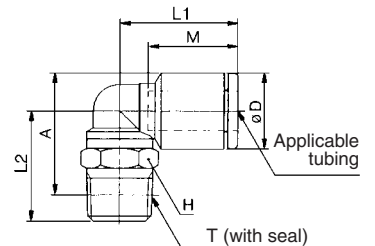
### <10-32 UNF>



### <NPT>



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

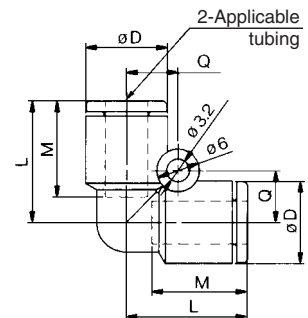


## Union Elbow: KJL



Applicable tubing O.D. (inch)	Model	Note)	L	Q	M	Min. port size	Weight (g)
		øD					
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

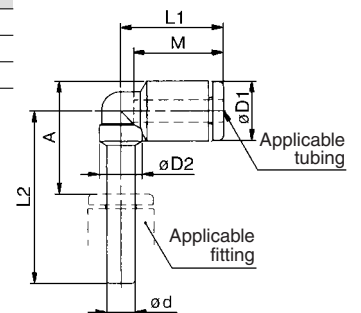


## Plug-in Elbow: KJL



Applicable tubing O.D. (inch)	Applicable fitting size ød (inch)	Model	Note)	øD1	øD2	L1	L2	A	M	Min. port size	Weight (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

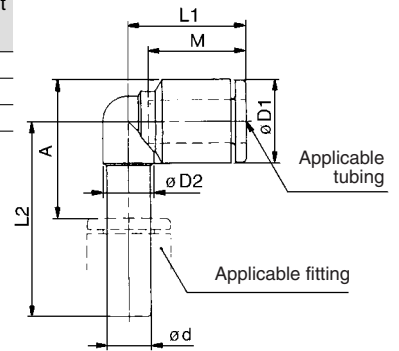


Reducer Elbow: KJL



Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Min. port size	Weight (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								
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>



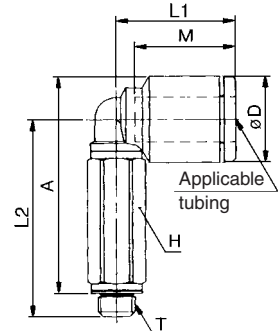
Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) $\phi D$	L1	L2	A	M	Min. port size	Weight (g)		
1/8	10-32 UNF	KJW01-32	7	8.4	15.3	26.2	27.3	12.7	2.3	6.2		
	1/16	KJW01-33S	9.5			29.4	29.6*				2.5	11.5
	1/8	KJW01-34S	11.11			25.7	25.9*					
5/32	10-32 UNF	KJW03-32	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			26.2	26.9*					
1/4	10-32 UNF	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	30.3					

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

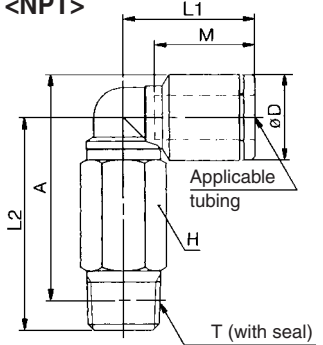
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<10-32 UNF>



<NPT>



Male Branch Tee: KJT

<10-32 UNF>



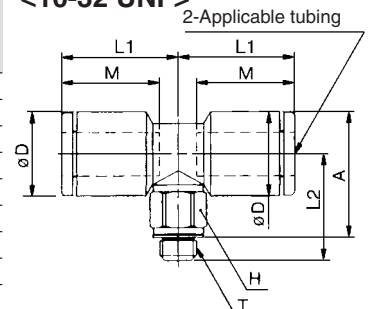
Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) $\phi D$	L1	L2	A	M	Min. port size	Weight (g)		
1/8	10-32 UNF	KJT01-32	7	8.4	15.3	13.2	14.3	12.7	2.3	3.2		
	1/16	KJT01-33S	9.5			16.4	16.6*				2.5	6.6
	1/8	KJT01-34S	11.11			15.4	15.6*					
5/32	10-32 UNF	KJT03-32	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			15.9	16.6*					
1/4	10-32 UNF	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	17.3					

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

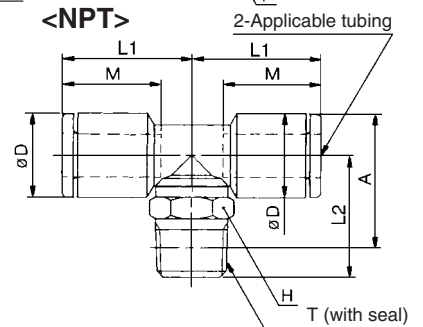
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<10-32 UNF>



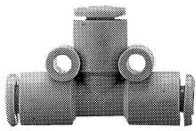
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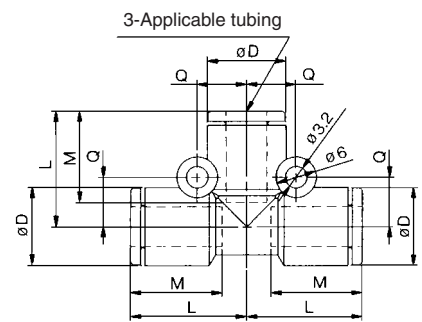
# Series KJ

## Union Tee: KJT

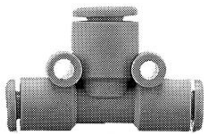


Applicable tubing O.D. (inch)	Model	Note) $\phi D$	L	Q	M	Min. port size	Weight (g)
1/8	<b>KJT01-00</b>	8.4	15	5.8	12.7	2.5	2.5
5/32	<b>KJT03-00</b>	9.3	15.8	6.3	12.7	3	3
1/4	<b>KJT07-00</b>	12	17.4	7.6	13.6	4.6	4.8

Note)  $\phi D$ : Max. diameter

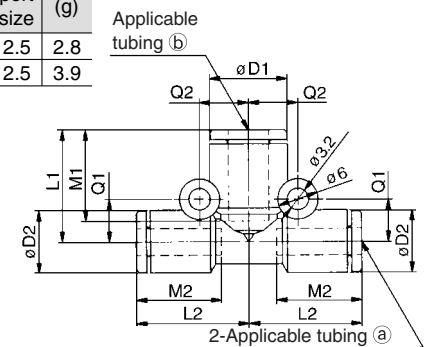


## Different Diameter Tee: KJT



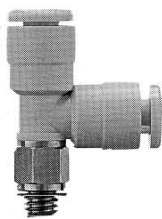
Applicable tubing O.D. (inch)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	Q1	Q2	M1	M2	Min. port size	Weight (g)
a	b											
1/8	5/32	<b>KJT01-03</b>	9.3	8.4	15.3	15.8	5.8	6.3	12.7	12.7	2.5	2.8
5/32	1/4	<b>KJT03-07</b>	12	9.3	16.4	16.8	6.3	7.6	13.6	12.7	2.5	3.9

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



## Male Run Tee: KJY

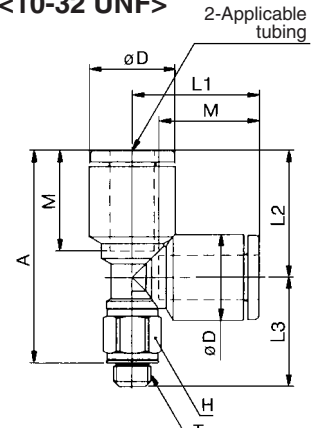
<10-32 UNF>



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	Weight (g)
1/8	10-32 UNF	<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							2.5	5.1
	1/8	<b>KJY01-34S</b>	11.11							2.5	7.4
5/32	10-32 UNF	<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							2.5	5.4
	1/8	<b>KJY03-34S</b>	11.11							2.5	7.7
1/4	10-32 UNF	<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							2.5	6.7
	1/8	<b>KJY07-34S</b>	11.11							4.6	7.5

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

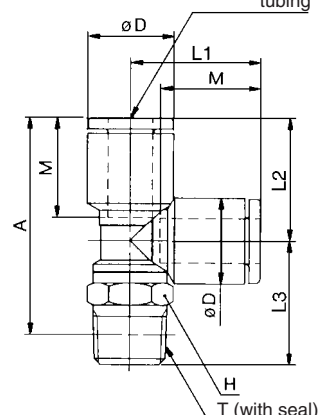
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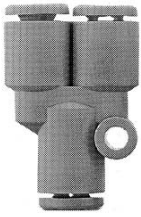


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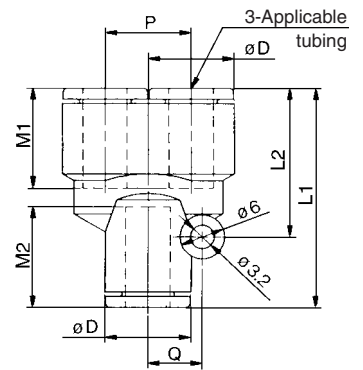


Union "Y": KJU

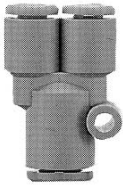


Applicable tubing O.D. (inch)	Model	Note) $\phi D$	L1	L2	P	Q	M1	M2	Min. port size	Weight (g)
1/8	<b>KJU01-00</b>	8.4	28.5	19	8.4	5.8	12.7	12.9	2.5	2.6
5/32	<b>KJU03-00</b>	9.3	27.9	18.3	9.3	6.3	12.7	12.9	3	3
1/4	<b>KJU07-00</b>	12	32.3	22.7	12	7.6	13.6	13.8	4.6	5

Note)  $\phi D$ : Max. diameter

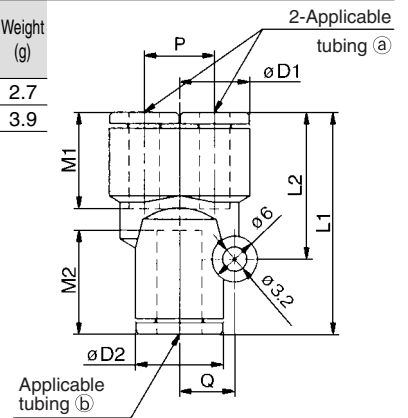


Different Diameter. Union "Y": KJU

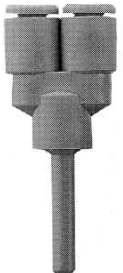


Applicable tubing O.D. (inch)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	P	Q	M1	M2	Min. port size	Weight (g)
a)	b)											
1/8	5/32	<b>KJU01-03</b>	8.4	9.3	27.5	18.3	8.4	6.3	12.7	12.9	2.5	2.7
5/32	1/4	<b>KJU03-07</b>	9.3	12	30.4	20.6	9.3	7.6	12.7	13.8	3	3.9

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

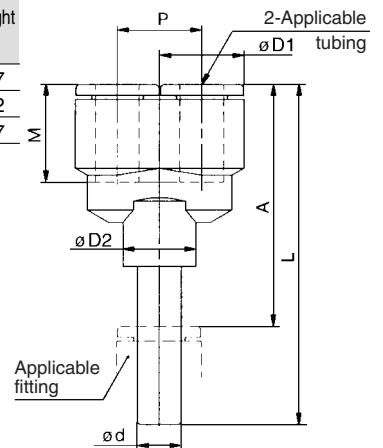


Plug-in "Y": KJU

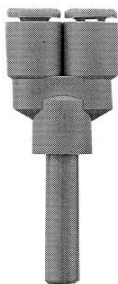


Applicable tubing O.D. (inch)	Applicable fitting size $\phi d$ (inch)	Model	Note) $\phi D1$	$\phi D2$	L	P	A	M	Min. port size	Weight (g)
1/8	1/8	<b>KJU01-99</b>	8.4	10	43.5	8.4	34.1	12.7	2.5	2.7
5/32	5/32	<b>KJU03-99</b>	9.3	10	44.7	9.3	35.3	12.7	3	3.2
1/4	1/4	<b>KJU07-99</b>	12	10	49.9	12	39.6	13.6	4.6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

Note)  $\phi D1$ : Max. diameter

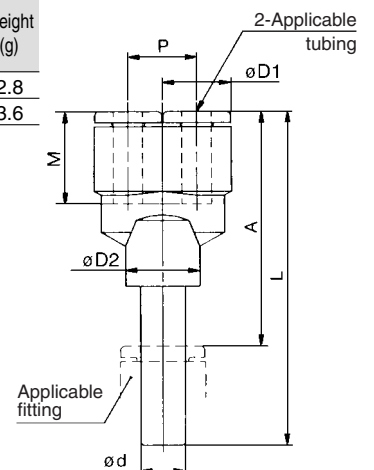


Different Diameter Plug-in "Y": KJX



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

Note)  $\phi D1$ : Max. diameter

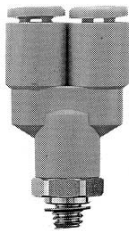


- K
- M
- H
- D
- MS
- T
- VMG

# Series KJ

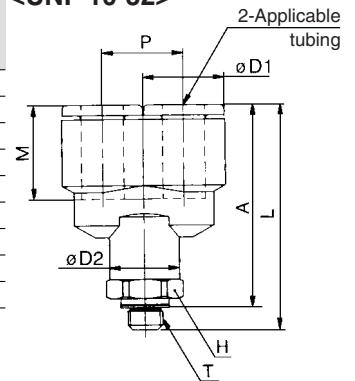
## Branch "Y": KJU

<10-32 UNF>

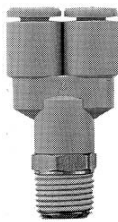


Applicable tubing O.D. (inch)	Connection thread (T) UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L	P	A	M	Min. port size	Weight (g)
1/8	10-32 UNF	<b>KJU01-32</b>	11.11	8.4	10	30.6	8.4	27.5	12.7	1.8	5.9
	1/16	<b>KJU01-33S</b>				34.1		30.1 *		2.5	8.1
	1/8	<b>KJU01-34S</b>				34.8		30.8 *		3.5	8.8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

<UNF 10-32>

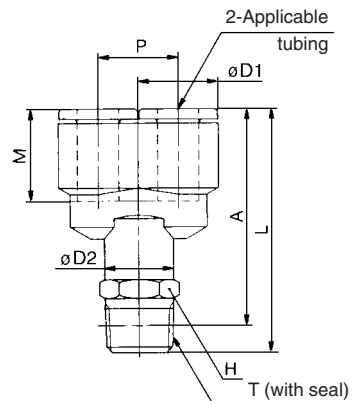


<NPT>



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

<NPT>

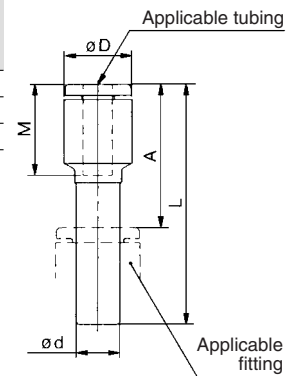


## Plug-in Reducer: KJR



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

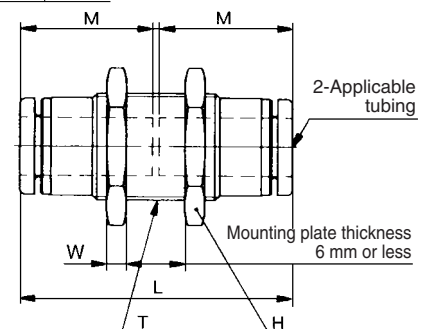
Note) øD: Max. diameter



## 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	Weight (g)
1/8	<b>KJE01-00</b>	3/8 - 24	12.7	26	10.5	12.7	2.8	2.5	8.1
5/32	<b>KJE03-00</b>	3/8 - 24	12.7	26	10.5	12.7		3	
1/4	<b>KJE07-00</b>	1/2 - 20	15.88	27.8	14	13.6	3.5	4.6	15.7



# One-touch Mini Series KJ

Applicable tubing O.D..  $\phi 2$   
 Connection thread: M3 x 0.5  
 M5 x 0.8



## Specifications

Applicable tubing material	Polyurethane
Applicable tubing O.D.	$\phi 2$
Fluid	Air, Water <sup>Note 1)</sup>
Maximum operating pressure	1 MPa <sup>Note 2)</sup>
Operating vacuum pressure	-100 kPa
Proof pressure	3 MPa
Ambient and fluid temperature	-5 to 60°C, For water: 0 to 40°C (No freezing)
Copper-free (Standard)	Brass parts are all electroless nickel plated.

Note 1) Applicable for general industrial water.

Note 2) Apply the maximum operating pressure to the tube during the tube connection.

## How to Order

**KJ H 02-M3**

Model ●

<b>H</b>	Male connector Straight union Different diameter straight
<b>S</b>	Hexagon socket head male connector
<b>L</b>	Male elbow
<b>W</b>	Extended male elbow
<b>T</b>	Male branch tee Union tee
<b>Y</b>	Male run tee Union "Y"
<b>U</b>	Different diameter union "Y"
<b>R</b>	Plug-in reducer
<b>E</b>	Bulkhead union

● Port size

<b>M3</b>	M3 x 0.5
<b>M5</b>	M5 x 0.8
<b>00</b>	Same diameter tubing
<b>23</b> <sup>Note 1)</sup>	$\phi 3.2$
<b>04</b> <sup>Note 1)</sup>	$\phi 4$

Note 1) Different diameter tubing O.D.

● Applicable tubing O.D.  $\phi 2$

\*) Plug: KJP-02

## Variation

Male connector  
KJH



Hexagon socket head male connector  
KJS



Straight union  
KJH



Different diameter straight  
KJH



Male elbow  
KJL



Extended male elbow  
KJW



Male branch tee  
KJT



Union tee  
KJT



Male run tee  
KJY



Union "Y"  
KJU



Different diameter union "Y"  
KJU



Plug-in reducer  
KJR



Bulkhead union  
KJE



Plug  
KJP

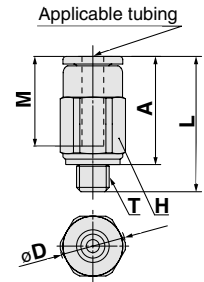


# Series KJ

## Male connector KJH



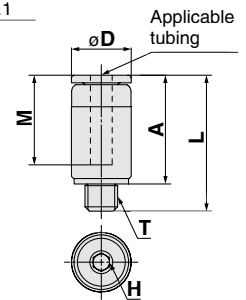
Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	øD	L	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJH02-M3	M3 x 0.5	5.5	6	12.5	10	8.8	0.9	1.1
	KJH02-M5	M5 x 0.8	7	7.8	11.7	8.7	8.8	0.9	1.9



## Hexagon socket head male connector KJS



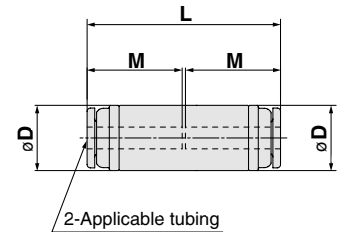
Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	øD	L	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJS02-M3	M3 x 0.5	1.5	5.5	12.5	10	8.8	0.9	1.1



## Straight union KJH



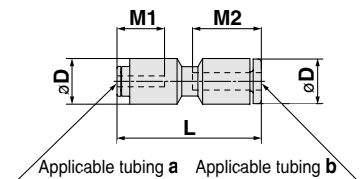
Applicable tubing O.D. (mm)	Model	øD1	L	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJH02-00	6	17.8	8.8	0.8	1.0



## Different diameter straight: KJH



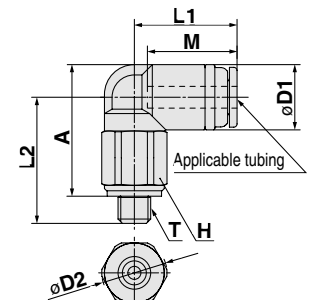
Applicable tubing O.D. (mm)		Model	øD	L	M1	M2	Effective area (mm <sup>2</sup> )	Weight (g)
a	b							
2	3.2	KJH02-23	8.4	26.6	8.8	12.7	0.9	2.4
	4	KJH02-04	9.3	26.6	8.8	12.7	0.9	3.2



## Male elbow KJL



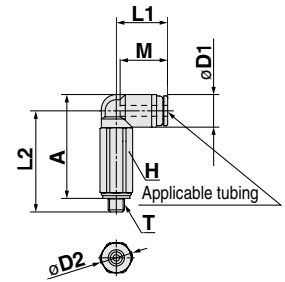
Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJL02-M3	M3 x 0.5	5.5	6	6	9.5	11.6	12.1	8.8	0.8	1.4
	KJL02-M5	M5 x 0.8	7	6	7.8	9.5	12.1	12.1	8.8	0.8	2.4



## Extended male elbow KJW



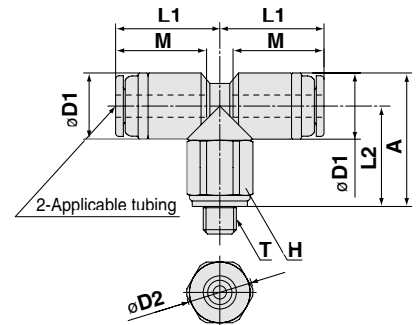
Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	$\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJW02-M3	M3 x 0.5	5.5	6	6	9.5	18.6	19.1	8.8	0.8	2.6
	KJW02-M5	M5 x 0.8	7	6	7.8	9.5	19.1	19.1	8.8	0.8	4.5



## Male branch tee KJT



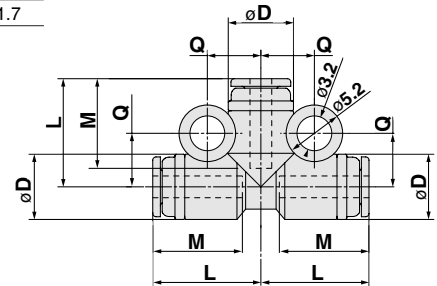
Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	$\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJT02-M3	M3 x 0.5	5.5	6	6	9.5	11.6	12.1	8.8	1.1	1.8
	KJT02-M5	M5 x 0.8	7	6	7.8	9.5	12.1	12.1	8.8	1.1	2.8



## Union tee KJT



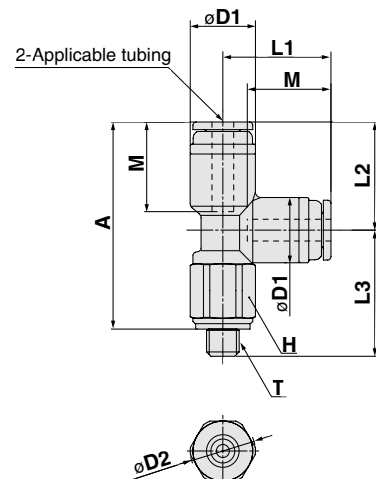
Applicable tubing O.D. (mm)	Model	$\phi D$	L	Q	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJT02-00	6	10	4.9	8.8	0.9	1.7



## Male branch tee KJY



Applicable tubing O.D. (mm)	Model	T Connection thread	H (Width across flats)	$\phi D1$	$\phi D2$	L1	L2	L3	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJY02-M3	M3 x 0.5	5.5	6	6	10	10	11.6	19.1	8.8	1.1	1.9
	KJY02-M5	M5 x 0.8	7	6	7.8	10	10	12.1	19.1	8.8	1.3	2.9

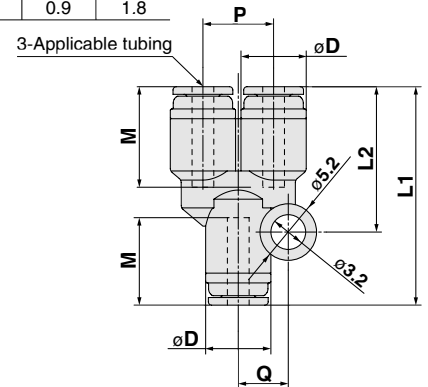


# Series KJ

## Union "Y" KJU



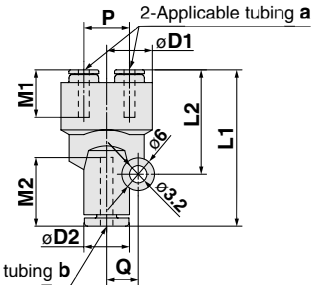
Applicable tubing O.D. (mm)	Model	øD	L1	L2	P	Q	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJU02-00	6	20.1	13.4	6.5	4.6	8.8	0.9	1.8



## Different diameter union "Y" KJU



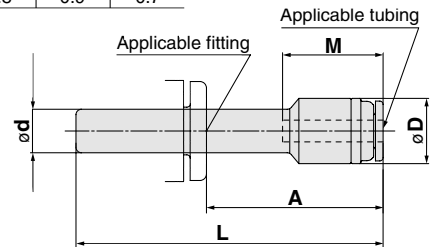
a	b	Model	øD1	øD2	L1	L2	P	Q	M1	M2	Effective area (mm <sup>2</sup> )	Weight (g)
2	3.2	KJU02-23	6	6	28.8	19.2	8.4	5.8	8.8	12.7	1.5	4.7
	4	KJU02-04	6	7.8	28.2	18.5	9.3	6.3	8.8	12.7	1.6	6.0



## Plug-in reducer KJR



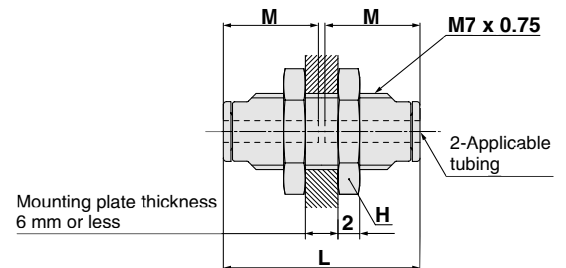
Applicable tubing O.D. (mm)	Model	Applicable fitting size ød	øD	L	A	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJR02-04	4	6	28.3	15.6	8.8	0.9	0.7



## Bulkhead union KJE



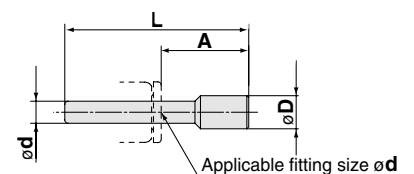
Applicable tubing O.D. (mm)	Model	Connection thread	H (Width across flats)	L	Mounting hole	M	Effective area (mm <sup>2</sup> )	Weight (g)
2	KJE02-00	M7 x 0.75	9	18.1	8	8.8	0.8	3.7



## Plug KJP



Applicable tubing O.D. (mm) ød	Model	øD	L	A	Weight (g)
2	KJP-02	3	17	8.2	0.1










Series **KJ/M/TU/AS**

# Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "**Caution**", "**Warning**" or "**Danger**". To ensure safety, be sure to observe ISO 4414 <sup>Note 1)</sup>, JIS B 8370 <sup>Note 2)</sup> and other safety practices.

## ■ Explanation of the labels

Labels	Explanation of the labels
 <b>Danger</b>	In extreme conditions, there is a possible result of serious injury or loss of life.
 <b>Warning</b>	Operator error could result in serious injury or loss of life.
 <b>Caution</b>	Operator error could result in injury or equipment damage.

Note 1) ISO 4414: Pneumatic fluid power – General rules relating to systems

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Note 3) Injury indicates light wounds, burns and electrical shocks that do not require hospitalization or hospital visits for long-term medical treatment.

Note 4) Equipment damage refers to extensive damage to the equipment and surrounding devices.

## ■ Selection/Handling/Applications

### 1. The compatibility of the pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or post analysis and/or tests to meet the specific requirements. The expected performance and safety assurance are the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

### 2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of pneumatic systems should be performed by fully knowledgeable and experienced operators. (Understanding JIS B 8370 General Rules for Pneumatic Equipment; and other safety rules are included.)

### 3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
2. When equipment is removed, confirm that safety process as mentioned above. Turn off the supply pressure for this equipment and exhaust all residual compressed air in the system, and release all the energy (liquid pressure, spring, condenser, gravity).
3. Before machinery/equipment is restarted, take measures to prevent quick extension of a cylinder piston rod, etc.

### 4. Contact SMC if the product will be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.
4. If the products are used in an interlock circuit, prepare a double interlock style circuit with a mechanical protection function for the prevention of a breakdown. And, examine the devices periodically if they function normally or not.

## ■ Exemption from liability

### 1. SMC is exempted from liability for any damages caused by earthquakes, fire for which SMC is not responsible for, actions by a third person, accidents, customer error with or without intention, product misuse, and any other damages caused by abnormal operating conditions.

### 2. SMC is exempted from liability for any accompanied damages, such as profit loss and discontinuation of business operation, caused by the operation or incompetency to operate our products.

### 3. SMC is exempted from liability for any damages caused by operations, which the catalogs and instruction manuals have not introduced, and operations outside of the specification range.

### 4. SMC is exempted from liability for any damages caused by malfunctions of our products when combined with other devices or software in which SMC is not involved in.



# ø2 Piping Series Specific Product Precautions

Be sure to read this before handling. For Flow Control Equipment Precautions, Fittings & Tubing Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

## Mounting

### Caution

1. Tightening of M3 and M5 screws
  - 1) After tightening by hand, the barb elbow type (M-3ALU-2, M-5ALHU-2) should be tighten an additional 1/3 rotations using an appropriate wrench.
  - 2) After tightening by hand, other types should be tightened by an additional 1/6 rotations using a suitable tool.Over tightening can cause air leakage due to damage to the threads and/or deformation of the gasket. Under tightening can cause loose threads and air leakage, etc.

## Handling of One-touch Fittings

### Caution

1. Tubing attachment/detachment for One-touch fittings
  - 1) Attaching of tubing
    1. Take a tubing having no flaws on its periphery and cut it off at a right angle. When cutting the tubing, use tubing cutters TK-1, 2 or 3. Do not use pinchers, nippers or scissors, etc. If cutting is done with tools other than tubing cutters, the tubing may be cut diagonally or become flattened, etc. This can make a secure installation impossible, and cause problems such as the tubing pulling out after installation or air leakage. Allow some extra length in the tubing.
    2. The polyurethane tubing with internal pressure expands its O.D. This may result in failure of reconnection to One-touch fittings. Examine the tubing and do not cut the tubing but reconnect to the One-touch fittings when its O.D. accuracy is +0.07 or larger in ø2, and +0.15 or larger in ø3.2 and ø4. Make sure the tubing goes through the release bushing smoothly when reconnecting it to the One-touch fittings.
    3. Grasp the tubing and push it in slowly, inserting it securely all the way into the fitting.
    4. After inserting the tubing, pull on it lightly to confirm that it will not come out. If it is not installed securely all the way into the fitting, this can cause problems such as air leakage or the tubing pulling out.
  - 2) Detaching of tubing
    1. Push in the release bushing sufficiently. When doing this, push the collar evenly.
    2. Pull out the tubing while holding down the release bushing so that it does not come out. If the release bushing is not pressed down sufficiently, there will be increased bite on the tubing and it will become more difficult to pull it out.
    3. When the removed tubing is to be used again, cut off the portion which has been chewed before reusing it. If the chewed portion of the tubing is used as is, this can cause trouble such as air leakage or difficulty in removing the tubing.

## Precautions on Other Tubing Brand

### Caution

1. Tubing O.D. ø3.2, ø4

When using a brand of tubing other than SMC, be careful of the tolerance of the tube's O.D.

1) Nylon tubing	≤ ±0.1 mm
2) Soft nylon tubing	≤ ±0.1 mm
3) Polyurethane tubing	≤ +0.15 mm
	≤ -0.2 mm

When the tolerance of the tube's O.D. is out of range mentioned above, do not use the tube. Because tubing cannot be connected, or it may cause air leakage or tubing to come out after installation.
2. Tubing O.D. ø2

Tubing other than from SMC cannot be used. If other tubing is used, it may not connect, air leakage is likely to occur after piping, or the tubing is likely to detach.

## Precautions on Series AS


### Caution


1. Suitable tightening torque for the hexagon lock nut is 0.05 N·m. For standard installation, turn 15 to 30° using a tool after fastening by hand. Be careful not to damage the product by over torquing.




# Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 <sup>Note 1)</sup>, JIS B 8370 <sup>Note 2)</sup> and other safety practices.

 **Caution** : Operator error could result in injury or equipment damage.

 **Warning** : Operator error could result in serious injury or loss of life.

 **Danger** : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

## Warning

### **1. The compatibility of pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.**

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

### **2. Only trained personnel should operate pneumatically operated machinery and equipment.**

Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

### **3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.**

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc.

### **4. Contact SMC if the product is to be used in any of the following conditions:**

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.



# Common Precautions

Be sure to read before handling.

For detailed precautions on every series, refer to main text.

## Selection

### Warning

#### 1. Confirm the specifications.

Products represented in this catalog are designed for use in compressed air applications only (including vacuum), unless otherwise indicated.

Do not use the product outside their design parameters.

Please contact SMC when using the products in applications other than compressed air (including vacuum).

## Mounting

### Warning

#### 1. Instruction manual

Install the products and operate them only after reading the instruction manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.

#### 2. Securing the space for maintenance

When installing the products, please allow access for maintenance.

#### 3. Tightening torque

When installing the products, please follow the listed torque specifications.

## Piping

### Caution

#### 1. Before piping

Make sure that all debris, cutting oil, dust, etc. are removed from the piping.

#### 2. Wrapping of pipe tape

When screwing piping or fittings into ports, ensure that chips from the pipe threads or sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

## Air Supply

### Warning

#### 1. Operating fluid

Please consult with SMC when using the product in applications other than compressed air (including vacuum).

Regarding products for general fluid, please ask SMC about applicable fluids.

#### 2. Install an air dryer, aftercooler, etc.

Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction.

Installation of an air dryer, after cooler etc. is recommended.

#### 3. Drain flushing

If condensate in the drain bowl is not emptied on a regular basis, the bowl will over flow and allow the condensate to enter the compressed air lines.

If the drain bowl is difficult to check and remove, it is recommended that a drain bowl with the auto-drain option be installed.

For compressed air quality, refer to "Air Preparation Equipment" catalog.

#### 4. Use clean air

If the compressed air supply is contaminated with chemicals, synthetic materials, corrosive gas, etc., it may lead to break down or malfunction.

## Operating Environment

### Warning

1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.

2. Do not expose the product to direct sunlight for an extended period of time.

3. Do not use in a place subject to heavy vibrations and/or shocks.

4. Do not mount the product in locations where it is exposed to radiant heat.

## Maintenance

### Warning

1. Maintenance procedures are outlined in the operation manual.

Not following proper procedures could cause the product to malfunction and could lead to damage to the equipment or machine.

#### 2. Maintenance work

If handled improperly, compressed air can be dangerous.

Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.

#### 3. Drain flushing

Remove drainage from air filters regularly. (Refer to the specifications.)

#### 4. Shut-down before maintenance

Before attempting any kind of maintenance make sure the supply pressure is shut of and all residual air pressure is released from the system to be worked on.

#### 5. Start-up after maintenance and inspection

Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.

#### 6. Do not make any modifications to be product.

Do not take the product apart.

# Quality Assurance Information (ISO 9001, ISO 14001)

## Reliable quality of products in the global market

To enable our customers throughout the world to use our products with even greater confidence, SMC has obtained certification for international standards “ISO 9001” and “ISO 14001”, and created a complete structure for quality assurance and environmental controls. SMC products pursue to meet its customers’ expectations while also considering company’s contribution in society.

### Quality management system ISO 9001

This is an international standard for quality control and quality assurance. SMC has obtained a large number of certifications in Japan and overseas, providing assurance to our customers throughout the world.



### Environmental management system ISO 14001

This is an international standard related to environmental management systems and environmental inspections. While promoting environmentally friendly automation technology, SMC is also making diligent efforts to preserve the environment.



## SMC’s quality control system



### Quality policies



### Quality control activities

# SMC Product Conforming to Inter

SMC products complying with EN/ISO, CSA/UL standards are supporting



The CE mark indicates that machines and components meet essential requirements of all the EC Directives applied.

It has been obligatory to apply CE marks indicating conformity with EC Directives when machines and components are exported to the member Nations of the EU.

Once "A manufacturer himself" declares a product to be safe by means of CE marking (declaration of conformity by manufacturer), free distribution inside the member Nations of the EU is permissible.

## ■ CE Mark

SMC provides CE marking to products to which EMC and Low Voltage Directives have been applied, in accordance with CETOP (European hydraulics and pneumatics committee) guide lines.

## ■ As of February 1998, the following 18 countries will be obliged to conform to CE mark legislation

Iceland, Ireland, United Kingdom, Italy, Austria, Netherlands, Greece, Liechtenstein, Sweden, Spain, Denmark, Germany, Norway, Finland, France, Belgium, Portugal, Luxembourg

## ■ EC Directives and Pneumatic Components

### • Machinery Directive

The Machinery Directive contains essential health and safety requirements for machinery, as applied to industrial machines e.g. machine tools, injection molding machines and automatic machines. Pneumatic equipment is not specified in Machinery Directive. However, the use of SMC products that are certified as conforming to EN Standards, allows customers to simplify preparation work of the Technical Construction File required for a Declaration of Conformity.

### • Electromagnetic Compatibility (EMC) Directive

The EMC Directive specifies electromagnetic compatibility. Equipment which may generate electromagnetic interference or whose function may be compromised by electromagnetic interference is required to be immune to electromagnetic affects (EMS/immunity) without emitting excessive electromagnetic affects (EMI/emission).

### • Low Voltage Directive

This directive is applied to products, which operate above 50 VAC to 1000 VAC and 75 VDC to 1500 VDC operating voltage, and require electrical safety measures to be introduced.

### • Simple Pressure Vessels Directive

This directive is applied to welded vessels whose maximum operating pressure (PS) and volume of vessel (V) exceed 50 bar/L. Such vessels require EC type examination and then CE marking.



# national Standards

you to comply with EC directives and CSA/UL standards.



## ■ CSA Standards & UL Standards

UL and CSA standards have been applied in North America (U.S.A. and Canada) symbolizing safety of electric products, and are defined to mainly prevent danger from electric shock or fire, resulting from trouble with electric products. Both UL and CSA standards are acknowledged in North America as the first class certifying body. They have a long experience and ability for issuing product safety certificate. Products approved by CSA or UL standards are accepted in most states and governments beyond question.

Since CSA is a test certifying body as the National Recognized Testing Laboratory (NRTL) within the jurisdiction of Occupational Safety and Health Administration (OSHA), SMC was tested for compliance with CSA Standards and UL Standards at the same time and was approved for compliance with the two Standards. The above CSA NRTL/C logo is described on a product label in order to indicate that the product is approved by CSA and UL Standards.

## ■ TSSA (MCCR) Registration Products

TSSA is the regulation in Ontario State, Canada. The products that the operating pressure is more than 5 psi (0.03 MPa) and the piping size is bigger than 1 inch. fall into the scope of TSSA regulation.

## Products conforming to CE Standard

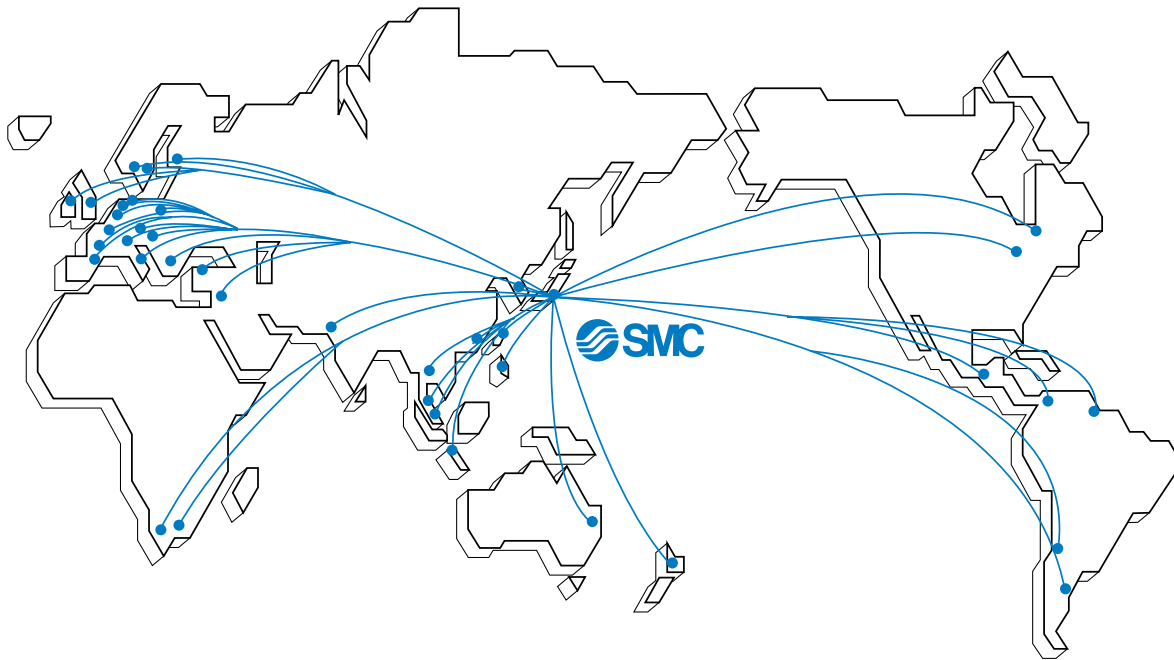


With CE symbol for simple visual recognition

In this catalog each accredited product series is indicated with a CE mark symbol. However, in some cases, every available models may not meet CE compliance. Please visit our web site for the latest selection of available models with CE mark.

<http://www.smcworld.com>

# SMC's Global Service Network



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## Europe

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