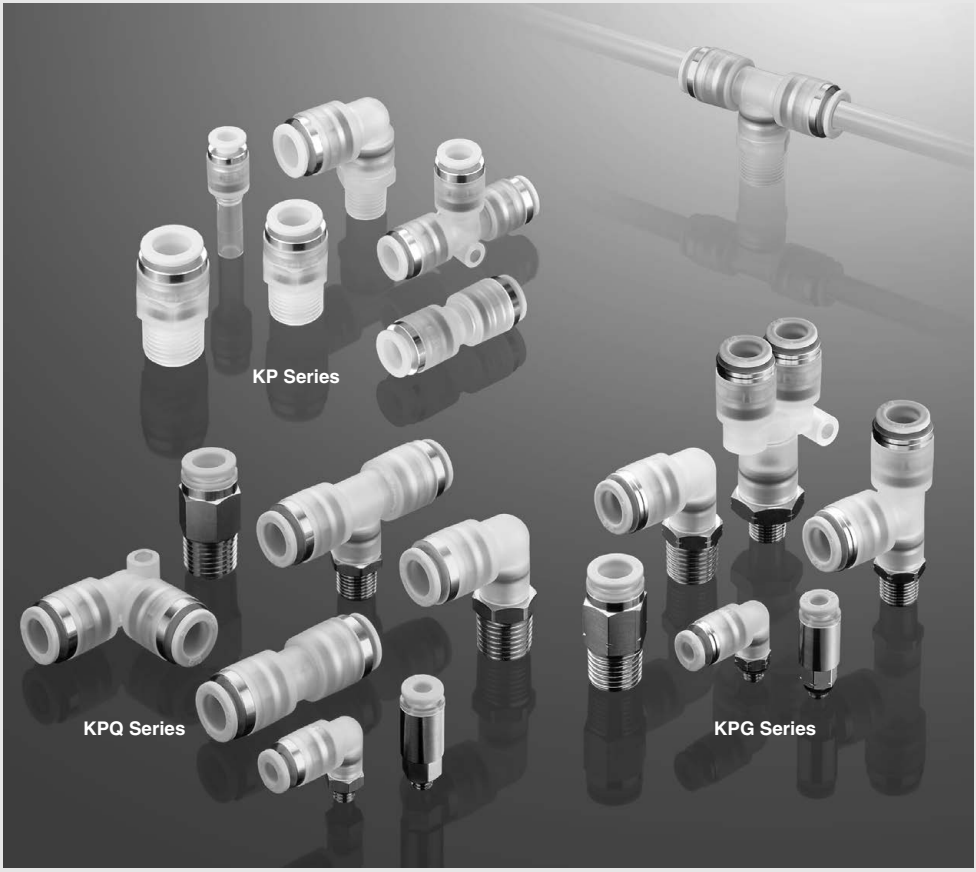
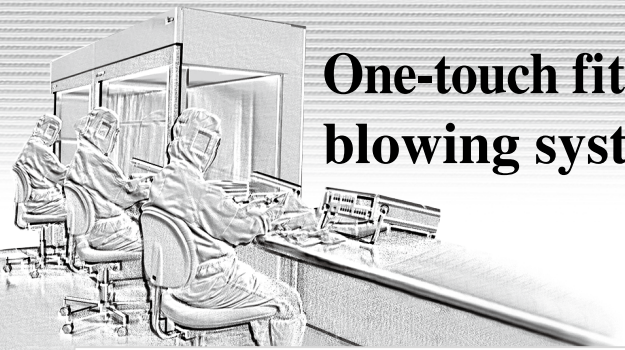
Clean One-touch Fittings

KP/KPQ/KPG Series

RoHS





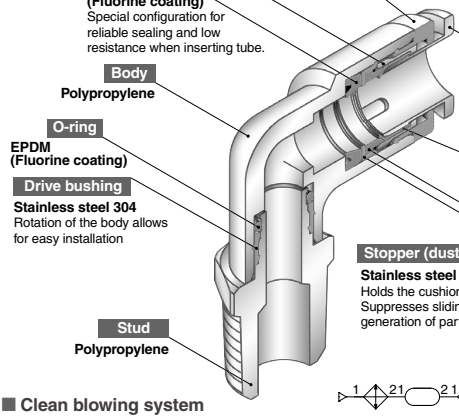
One-touch fittings and tubing for blowing systems and drive air

One-touch fittings (for blowing)

KP Series

- Completely oil free (Rubber parts are fluorine-coated.)
- Liquid-contact areas are non-metallic
- Parts cleaning, assembly and double packaging in a clean room
- Can be used for vacuum (–100kPa)

KP Series



Collet
Polypropylene

Seal
EPDM
(Fluorine coating)
Special configuration for reliable sealing and low resistance when inserting tube.

Body
Polypropylene

O-ring
EPDM
(Fluorine coating)

Drive bushing
Stainless steel 304
Rotation of the body allows for easy installation

Stud
Polypropylene

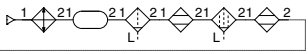
Guide
Stainless steel 304

Release button Light force for removal
Polypropylene
Releases the chuck collet when tubing is removed. Also prevents the chuck from biting excessively into the tubing.

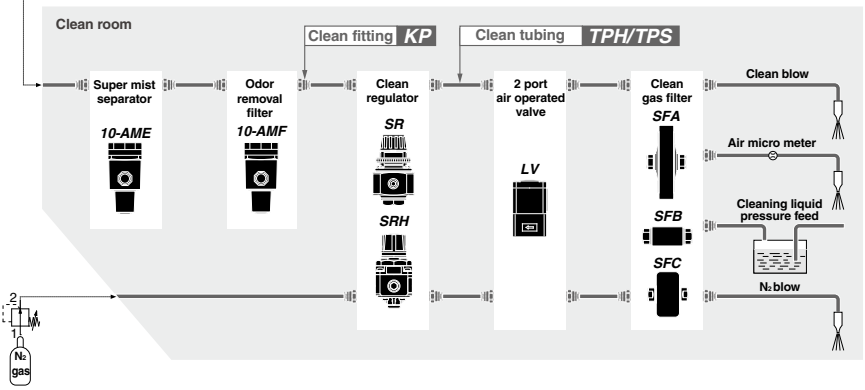
Chuck
Stainless steel 304
The chuck provides a secure bite, while holding force is increased by the collet.

Stopper (dust check)
Stainless steel 304
Holds the cushion and secures the seal. Suppresses sliding of the seal to prevent generation of particulates.

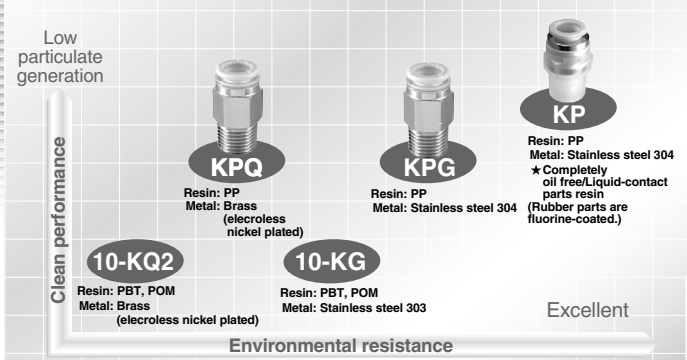
Bumper
EPDM



■ Clean blowing system



clean room systems



One-touch fittings (for drive system air piping)

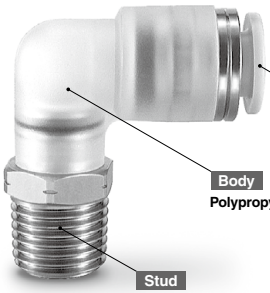
KPQ/KPG Series

Brass (electroless nickel plated) | Stainless steel 304

● **Resin parts are P.P. (Polypropylene)**

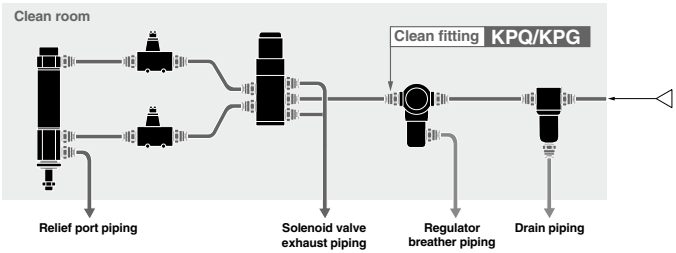
KPQ Series

KPG Series



Male connector

■ **Drive air piping system**



Clean One-touch Fittings For Blowing

KP Series

RoHS

⚠Caution

KP series is a line of special One-touch fittings for use in clean room blowing and washing lines.

Please consult with SMC regarding other types of applications.

Seal material: The durability of EPDM with respect to mineral oils is inferior, which makes it unsuitable for piping in general pneumatic equipment.

Applicable Tubing

Tubing material	PFA, Polyolefin Soft polyolefin, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

Note 1) FEP, nylon and soft nylon tubing, and tubing not compatible with the clean series can also be used. However, the degree of clean performance will be reduced.

Note 2) Due to the softness of polyurethane tubing, it may fold when being inserted. Hold the end of the tubing and insert it all the way in.

Specifications

Cleanliness class (ISO class)	Class 3 Note 1)
Fluid	Air/N_2/Water/Deionized water (pure water) Note 2)
Maximum operating pressure (20°C)	1 MPa Note 3)
Operating vacuum pressure	–100 kPa {10 Torr}
Proof pressure (20°C)	3 MPa
Ambient and fluid temperature	– 20°C to 80°C
Threads	JIS B0203 (Taper thread for piping)

Note 1) Refer to particle generation classifications.

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

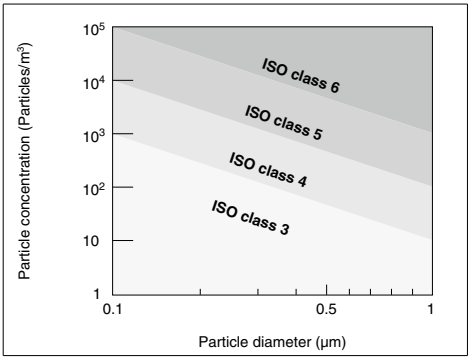
Note 3) The maximum operating pressure is the value at 20°C. Refer to the operating pressure curve for other temperatures.

Note 4) Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

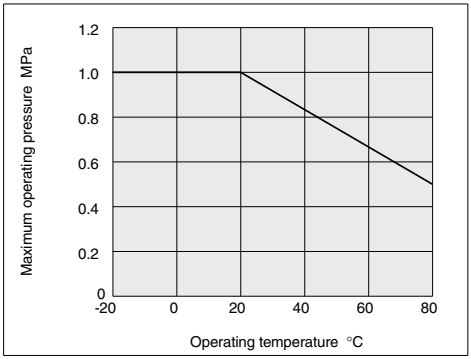
Made to Order

Made to Order
(Refer to page 563 for details.)

Particulate Generation Classifications



Relation between Operating Temperature and Maximum Operating Pressure



Note) Refer to the **Web Catalog** for details.

How to Order

KP H 06 – 01 – [ ]

KP P 08

Clean One-touch fittings (for blowing)

Model

H	Male connector, Straight union
L	Union elbow, Male elbow
T	Male branch tee, Union tee
Y	Male run tee
U	Male branch, Union "Y"
R	Plug-in reducer

Applicable tubing O.D.

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Port size/Applicable tubing O.D.

Thread connection	**01**	R 1/8	
	02	R 1/4	
	03	R 3/8	
	04	R 1/2	
Tubing (rod) connection	**00**	Same dia. tubing	
	04	ø4	Different dia. tubing (plug-in reducer)
	06	ø6	
	08	ø8	
	10	ø10	
	12	ø12	

Made to Order

X53	With pipe tape

Applicable fitting size

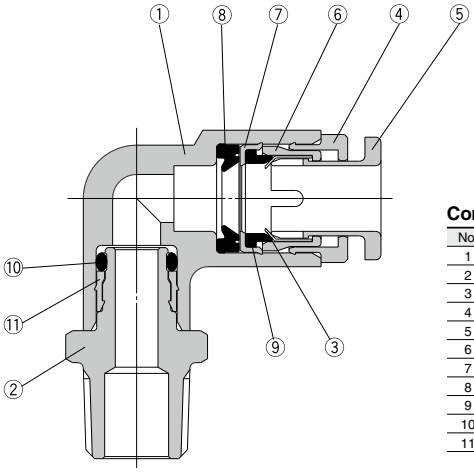
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Plug

Clean One-touch fittings

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

Construction



Component Parts

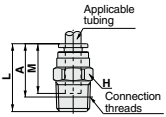
No.	Description	Material
1	Body	PP
2	Stud	PP
3	Chuck	Stainless steel 304
4	Guide	Stainless steel 304
5	Release button	PP (color: light green)
6	Collet	PP
7	Stopper	Stainless steel 304
8	Seal	EPDM (Fluorine-coated)
9	Bumper	EPDM (Fluorine-coated)
10	O-ring	EPDM (Fluorine-coated)
11	Drive bushing	Stainless steel 304

Dimensions

Male Connector: KPH

Applicable tubing O.D. mm	Connection thread R	Model	H (width across flats)	L	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	1/8	**KPH04-01**	12	24.4	20.5	17	4	4	3
	1/4	**KPH04-02**			18.5				4
6	1/8	**KPH06-01**	14	24.9	21	18.5	10	10	4
	1/4	**KPH06-02**		25.4	19.5				5
8	1/8	**KPH08-01**	17	31.3	27.5	20.5	26	18	6
	1/4	**KPH08-02**		29.3	23.5				7
10	1/4	**KPH10-02**	19	36.5	31	23	41	29	10
	3/8	**KPH10-03**		32	26				11
12	3/8	**KPH12-03**	22	33	27	24	58	46	12
	1/2	**KPH12-04**		33.5	26				13

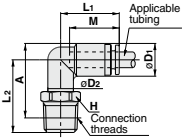
∗ Reference dimension for R threads after installation



Male Elbow: KPL

Applicable tubing O.D. mm	Connection thread R	Model	H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	1/8	**KPL04-01**	12	10.4	10	19.7	23.2	24.5	17	3.5	3.5	4
	1/4	**KPL04-02**	14				27.2	26.5				5
6	1/8	**KPL06-01**	12	12.8		21.8	24.4	27	18.5	9	9	5
	1/4	**KPL06-02**	14				28.4	29				6
8	1/8	**KPL08-01**	14	15.2	12	25.3	26.6	30	20.5	22	15	8
	1/4	**KPL08-02**					29.4	31.5				9
10	1/4	**KPL10-02**	17	18.5	17	28.4	32.1	35.5	23	35	25	13
	3/8	**KPL10-03**					33.1	36.5				14
12	3/8	**KPL12-03**	22	20.9	22	30.4	34.3	38.5	24	50	40	15
	1/2	**KPL12-04**					38.3	41.5				18

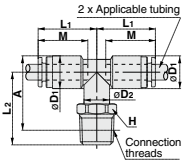
∗ Reference dimension for R threads after installation



Male Branch Tee: KPT

Applicable tubing O.D. mm	Connection thread R	Model	H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	1/8	**KPT04-01**	12	10.4	10	19.7	23.2	24.5	17	4.1	4.1	6
	1/4	**KPT04-02**	14				27.2	26.5				7
6	1/8	**KPT06-01**	12	12.8		21.8	24.4	27	18.5	11	11	8
	1/4	**KPT06-02**	14				28.4	29				9
8	1/8	**KPT08-01**	14	15.2	12	25.3	26.6	30	20.5	26.3	18.2	12
	1/4	**KPT08-02**					29.4	31.5				13
10	1/4	**KPT10-02**	17	18.5	17	28.4	32.1	35.5	23	40.8	29	20
	3/8	**KPT10-03**					33.1	36.5				21
12	3/8	**KPT12-03**	22	20.9	22	30.4	34.3	38.5	24	57.2	45.2	24
	1/2	**KPT12-04**					38.3	41.5				27

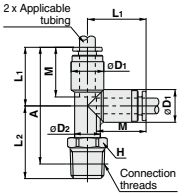
∗ Reference dimension for R threads after installation



Male Run Tee: KPY

Applicable tubing O.D. mm	Connection thread R	Model	H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	1/8	**KPY04-01**	12	10.4	10	19.7	23.2	39	17	7.5	7.5	6
	1/4	**KPY04-02**	14				27.2	41				7
6	1/8	**KPY06-01**	12	12.8		21.8	24.4	42	18.5	11	11	8
	1/4	**KPY06-02**	14				28.4	44.5				9
8	1/8	**KPY08-01**	14	15.2	12	25.3	26.6	48	20.5	21	21	12
	1/4	**KPY08-02**					29.4	49				13
10	1/4	**KPY10-02**	17	18.5	17	28.4	32.1	55	23	45	45	19
	3/8	**KPY10-03**					33.1	55.5		57	52	20
12	3/8	**KPY12-03**	22	20.9	22	30.4	34.3	58.5	24	57	57	21
	1/2	**KPY12-04**					38.3	61.5				24

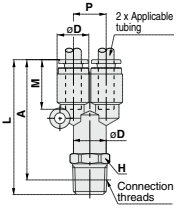
∗Reference dimension for R threads after installation



Male Branch "Y": KPU

Applicable tubing O.D. mm	Connection thread R	Model	H (width across flats)	øD	L	P	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	1/8	**KPU04-01**	12	10.4	44.4	10.4	40.5	17	7.5	7.5	7
	1/4	**KPU04-02**			48.4		42.5				8
6	1/8	**KPU06-01**	14	12.8	48.6	12.8	44.5	18.5	18	18	9
	1/4	**KPU06-02**			51.4		45.5				10
8	1/8	**KPU08-01**	17	15.2	55.7	15.2	51.5	20.5	26	26	15
	1/4	**KPU08-02**	19		60.3		54.5		45	35	17
10	1/4	**KPU10-02**	22	18.5	63.5	18.5	58	23	45	45	23
	3/8	**KPU10-03**			66.5		60.5		70	55	25
12	3/8	**KPU12-03**		20.9	68.7	20.9	62.5	24	70	70	29
	1/2	**KPU12-04**			71.7		64.5		100	90	30

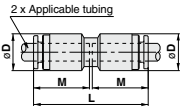
∗ Reference dimension for R threads after installation



Dimensions

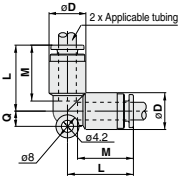
Straight Union: KPH

Applicable tubing O.D. mm	Model	øD	L	M	Effective area mm²		Weight g
					TPH	TPS	
4	KPH04-00	10.4	35.4	17	4	4	4
6	KPH06-00	12.8	37.6	18.5	10	10	6
8	KPH08-00	15.2	42.4	20.5	26	18	10
10	KPH10-00	18.5	46.6	23	41	29	15
12	KPH12-00	20.9	48.6	24	58	46	18



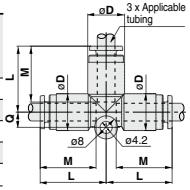
Elbow: KPL

Applicable tubing O.D. mm	Model	øD	L	Q	M	Effective area mm²		Weight g
						TPH	TPS	
4	KPL04-00	10.4	19.7	4.5	17	3.5	3.5	3
6	KPL06-00	12.8	21.8	5.3	18.5	9	9	7
8	KPL08-00	15.2	25.3	6	20.5	22	15	11
10	KPL10-00	18.5	28.4	6.8	23	35	25	16
12	KPL12-00	20.9	30.4	7.5	24	50	40	20



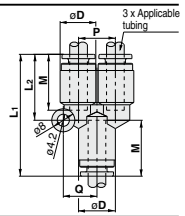
Union Tee: KPT

Applicable tubing O.D. mm	Model	øD	L	Q	M	Effective area mm²		Weight g
						TPH	TPS	
4	KPT04-00	10.4	19.7	4.5	17	4	4	7
6	KPT06-00	12.8	21.8	5.3	18.5	10	10	9
8	KPT08-00	15.2	25.3	6	20.5	26	18	16
10	KPT10-00	18.5	28.4	6.8	23	41	29	25
12	KPT12-00	20.9	30.4	7.5	24	58	46	29



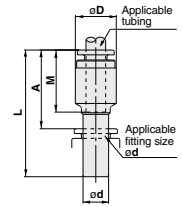
Union "Y": KPU

Applicable tubing O.D. mm	Model	øD	L1	L2	P	Q	M	Effective area mm²		Weight g
								TPH	TPS	
4	KPU04-00	10.4	36.8	19.6	10.4	9.7	17	4	4	7
6	KPU06-00	12.8	40.1	21.8	12.8	11.7	18.5	10	10	10
8	KPU08-00	15.2	46.7	26.5	15.2	13.7	20.5	26	18	17
10	KPU10-00	18.5	52	29.7	18.5	16.1	23	41	29	26
12	KPU12-00	20.9	55.2	31.9	20.9	18.1	24	58	46	32



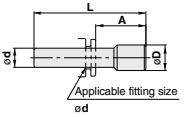
Plug-in Reducer: KPR

Applicable tubing O.D. mm	Applicable fitting size ød	Model	øD	L	A	M	Effective area mm²		Weight g
							TPH	TPS	
4	6	KPR04-06	10.4	38.4	19.1	17	4	4	3
	8	KPR04-08		40.9	19.2				4
6		KPR06-08	12.8	41.5	19.8	18.5	10	10	4
	10	KPR06-10		44	20.2				5
8		KPR08-10	15.2	46	22.2	20.5	26	18	5
	12	KPR08-12		47					6
10		KPR10-12	18.5	49.5	24.7	23	41	29	9



Plug: KPP

Applicable fitting size ød	Model	øD	L	A	Weight g
4	KPP-04	6	32	13.8	0.4
6	KPP-06	8	35	15.7	0.7
8	KPP-08	10	39	17.3	1.1
10	KPP-10	12	43	19.2	1.7
12	KPP-12	14	45.5	20.7	2.5



Clean One-touch Fittings For Driving Air Piping

RoHS

KPQ/KPG Series

KPQ Series
Brass (electroless nickel plated)
Release button: Light gray

KPG Series
Stainless steel 304
Release button: Light blue

Made to Order

Made to Order
(Refer to page 567 for details.)

Applicable Tubing

Tubing material	PFA, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

FEP, nylon and soft nylon tubing, and tubing not compatible with the clean series can also be used. However, the degree of clean performance will be reduced.

Specifications

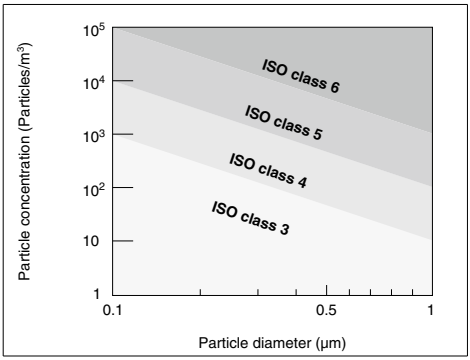
Cleanliness class (ISO class)	Class 3 Note 1)
Fluid	Air
Maximum operating pressure (20°C)	1 MPa Note 2)
Operating vacuum pressure	–100 kPa
Proof pressure (20°C)	3 MPa
Ambient and fluid temperature	–5°C to 60°C
Threads	JIS B0203 (Taper thread for piping)
Oil	Fluorine-based grease (NSF H1 grease)

Note 1) Refer to particle generation classifications
This falls outside of the grade because fluorine grease is applied to the internal seal materials.

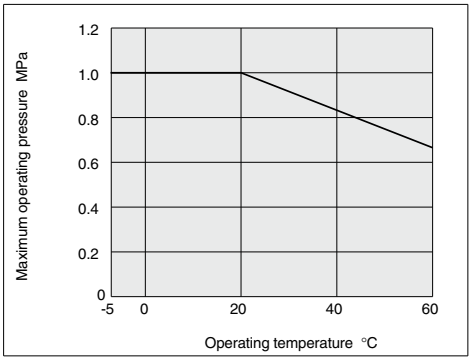
Note 2) The maximum operating pressure is the value at 20°C. Refer to the operating pressure curve for other temperatures.

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

Particulate Generation Classifications



Relation between Operating Temperature and Maximum Operating Pressure



Note) Refer to the **Web Catalog** for details.

SMC

How to Order

KP Q H 06 – 01 – ☐

Clean One-touch fittings

Specifications

Symbol	Specifications (metal part materials)
Q	Brass (electroless nickel plated)
G	Stainless steel 304

Model

H	Male connector, Straight union
L	Union elbow, Male elbow
T	Male branch tee, Union tee
Y	Male run tee
U	Male branch, Union "Y"
R	Plug-in reducer

Applicable tubing O.D.

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Made to Order

X53	With pipe tape
X193 Note 1)	Grease-free Rubber material: EPDM (Fluorine-coated) Gasket: M-5G3 (Stainless steel 316, Special FKM) Note 2) With release bushing, Guide color: Natural
X1806	Set package specification Note 3) ø4 to ø8: 10 pcs./bag ø10 to ø12: 5 pcs./bag

Note 1) Compatible with products with threads only
Note 2) M5 thread
Note 3) Packaged in a general environment

Port size/Applicable tubing O.D.

Thread connection	M5	M5 x 0.8	
	01	R 1/8	
	02	R 1/4	
	03	R 3/8	
	04	R 1/2	
Tubing (rod) connection	00	Same dia. tubing	
	04	ø4	Different dia. tubing (plug-in reducer)
	06	ø6	
	08	ø8	
	10	ø10	
	12	ø12	

KP P 08

Applicable fitting size

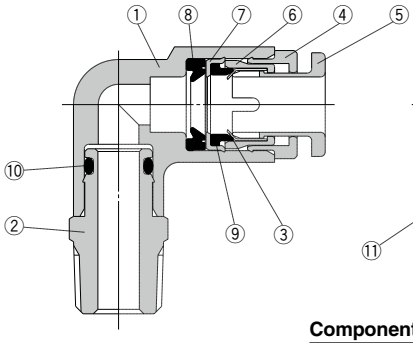
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

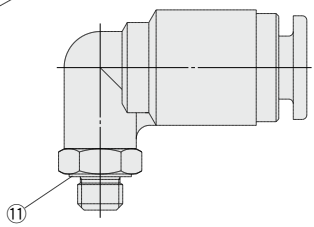
Plug

Clean One-touch fittings

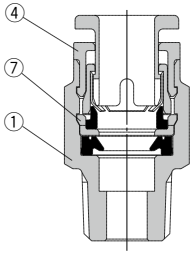
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Construction





M5 type



Male connector

Component Parts

No.	Description		Material	
			KPQ Series	KPG Series
1	Body	With male connector	PP C3604 (electroless nickel plated)	Stainless steel 304
2	Stud		C3604 (electroless nickel plated)	Stainless steel 304
3	Chuck		Stainless steel 304	
4	Guide		C3604 (electroless nickel plated)	Stainless steel 304
		With male connector	PP	
5	Release button		PP (color: light gray)	PP (color: light blue)
6	Collet		PP	
7	Stopper		Stainless steel 304	
		With male connector	PP	
8	Seal		NBR	
9	Bumper		NBR	
10	O-ring		NBR	
11	Gasket		Stainless steel 304, NBR	

Dimensions

Male Connector: KPQH, KPGH

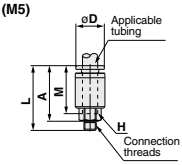
(M5)

(R)

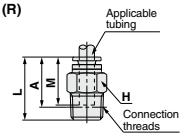
Applicable tubing O.D. mm	Connection thread R M	Model		H (width across flats)	øD	L	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	M5 x 0.8	KPQH04-M5	—	8	10	24.4	21.5	17	4	4	4
	—	—	KPGH04-M5			24.9					
	1/8	KPQH04-01	KPGH04-01	10	—	23.5	18.5				7
	1/4	KPQH04-02	KPGH04-02	14	—	21.4	16				12
6	M5 x 0.8	KPQH06-M5	—	8	12	25.3	22	18.5	10	10	5
	—	—	KPGH06-M5			25.8					
	1/8	KPQH06-01	KPGH06-01	12	—	23.7	18.5				7
	1/4	KPQH06-02	KPGH06-02	14	—	24.6	19				14
8	1/8	KPQH08-01	KPGH08-01	14	—	30.7	25.5	20.5	26	18	14
	1/4	KPQH08-02	KPGH08-02		—	29.1	23.5				13
10	1/4	KPQH10-02	KPGH10-02	17	—	36.1	30.5	23	41	29	24
	3/8	KPQH10-03	KPGH10-03		—	30.9	25.5				23
12	3/8	KPQH12-03	KPGH12-03	19	—	32	26.5	24	58	46	23
	1/2	KPQH12-04	KPGH12-04	22	—	32.2	25				46

* Reference dimension for R threads after installation

(M5)



(R)



Male Elbow: KPQL, KPGL

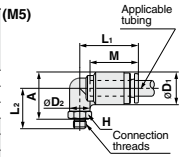
(M5)

(R)

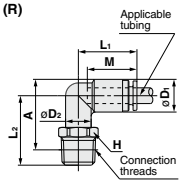
Applicable tubing O.D. mm	Connection thread R M	Model		H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	M5 x 0.8	KPQL04-M5	KPGL04-M5	8	10.4	8	19.7	15.3	17	17	4	4	4
	1/8	KPQL04-01	KPGL04-01	10		10		21.1	21				10
	1/4	KPQL04-02	KPGL04-02	14				25.5	25				19
6	M5 x 0.8	KPQL06-M5	KPGL06-M5	8	12.8	8	21.8	15.8	18.5	18.5	10	10	6
	1/8	KPQL06-01	KPGL06-01	10		10		22.3	23.5				12
	1/4	KPQL06-02	KPGL06-02	14				26.7	27.5				20
8	1/8	KPQL08-01	KPGL08-01	12	15.2	12	25.3	23.5	26	20.5	26	18	13
	1/4	KPQL08-02	KPGL08-02	14				27.9	30				21
10	1/4	KPQL10-02	KPGL10-02	17	18.5	17	28.4	29.4	33	23	41	29	26
	3/8	KPQL10-03	KPGL10-03					30.8	34.5				36
12	3/8	KPQL12-03	KPGL12-03		20.9		30.4	32	37	24	58	46	38
	1/2	KPQL12-04	KPGL12-04	22				36.2	39.5				65

* Reference dimension for R threads after installation

(M5)



(R)



Union Tee: KPQT, KPGT

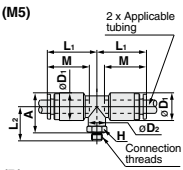
(M5)

(R)

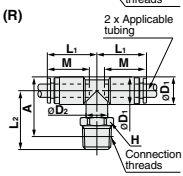
Applicable tubing O.D. mm	Connection thread R M	Model		H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	M5 x 0.8	KPQT04-M5	KPGT04-M5	8	10.4	8	19.7	15.3	17	17	4	4	6
	1/8	KPQT04-01	KPGT04-01	10		10		21.1	21				13
	1/4	KPQT04-02	KPGT04-02	14				25.5	25				19
6	M5 x 0.8	KPQT06-M5	KPGT06-M5	8	12.8	8	21.8	15.8	18.5	18.5	10	10	7
	1/8	KPQT06-01	KPGT06-01	10		10		22.3	23.5				14
	1/4	KPQT06-02	KPGT06-02	14				26.7	27.5				20
8	1/8	KPQT08-01	KPGT08-01	12	15.2	12	25.3	23.5	26	20.5	26	18	14
	1/4	KPQT08-02	KPGT08-02	14				27.9	30				22
10	1/4	KPQT10-02	KPGT10-02	17	18.5	17	28.4	29.4	33	23	41	29	29
	3/8	KPQT10-03	KPGT10-03					30.8	34.5				39
12	3/8	KPQT12-03	KPGT12-03		20.9		30.4	32	37	24	58	46	41
	1/2	KPQT12-04	KPGT12-04	22				36.2	39.5				38

* Reference dimension for R threads after installation

(M5)



(R)



Dimensions

Male Run Tee: KPQY, KPGY

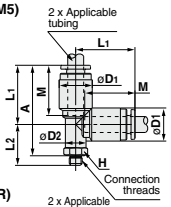
(M5)

(R)

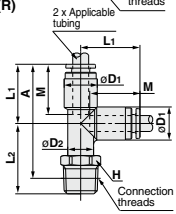
Applicable tubing O.D. mm	Connection thread R M	Model		H (width across flats)	øD1	øD2	L1	L2	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	M5 x 0.8	KPQY04-M5	KPGY04-M5	8	10.4	8	19.7	15.3	31.5	17	4	4	6
	1/8	KPQY04-01	KPGY04-01	10		10		21.1	35.5				13
	1/4	KPQY04-02	KPGY04-02	14				25.5	39.5				19
6	M5 x 0.8	KPQY06-M5	KPGY06-M5	8	12.8	8	21.8	15.8	34	18.5	10	10	7
	1/8	KPQY06-01	KPGY06-01	10		10		22.3	39				14
	1/4	KPQY06-02	KPGY06-02	14				26.7	43				20
8	1/8	KPQY08-01	KPGY08-01	12	15.2	12	25.3	23.5	43.5	20.5	26	18	14
	1/4	KPQY08-02	KPGY08-02	14				27.9	47.5				22
10	1/4	KPQY10-02	KPGY10-02	17	18.5	17	28.4	29.4	52.5	23	41	29	29
	3/8	KPQY10-03	KPGY10-03					30.8	54				39
12	3/8	KPQY12-03	KPGY12-03		20.9		30.4	32	57	24	58	46	41
	1/2	KPQY12-04	KPGY12-04	22				36.2	59.5				68

* Reference dimension for R threads after installation

(M5)



(R)



Male Branch: KPQU, KPGU

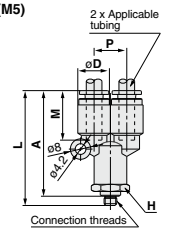
(M5)

(R)

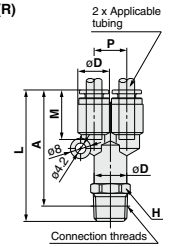
Applicable tubing O.D. mm	Connection thread R M	Model		H (width across flats)	øD	L	P	A*	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	M5 x 0.8	KPQU04-M5	KPGU04-M5	11	10.4	40.7	10.4	37	17	4	4	10
	1/8	KPQU04-01	KPGU04-01			42.3						11
	1/4	KPQU04-02	KPGU04-02	14		46.7		41				20
6	M5 x 0.8	KPQU06-M5	KPGU06-M5	13	12.8	43.9	12.8	40.5	18.5	10	10	12
	1/8	KPQU06-01	KPGU06-01			45.5						11
	1/4	KPQU06-02	KPGU06-02	14		49.9		44.5				21
8	1/8	KPQU08-01	KPGU08-01	17	15.2	53.6	15.2	48.5	20.5	26	18	15
	1/4	KPQU08-02	KPGU08-02			59.1		53.5				23
10	1/4	KPQU10-02	KPGU10-02	19	18.5	62.3	18.5	57	23	41	29	30
	3/8	KPQU10-03	KPGU10-03			59.2		54				40
12	3/8	KPQU12-03	KPGU12-03	22	20.9	64.9	20.9	59.5	24	58	46	40
	1/2	KPQU12-04	KPGU12-04			69.5		62.5				65

* Reference dimension for R threads after installation

(M5)

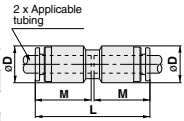


(R)



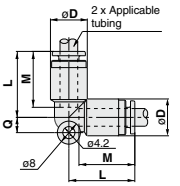
Straight Union: KPQH, KPGH

Applicable tubing O.D. mm	Model		øD	L	M	Effective area mm² TPH	Effective area mm² TPS	Weight g
4	KPQH04-00	KPGH04-00	10.4	35.4	17	4	4	4
6	KPQH06-00	KPGH06-00	12.8	37.6	18.5	10	10	6
8	KPQH08-00	KPGH08-00	15.2	42.4	20.5	26	18	10
10	KPQH10-00	KPGH10-00	18.5	46.6	23	41	29	15
12	KPQH12-00	KPGH12-00	20.9	48.6	24	58	46	18



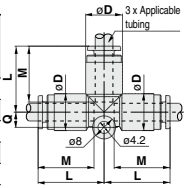
Elbow: KPQL, KPGL

Applicable tubing O.D. mm	Model		øD	L	Q	M	Effective area mm²		Weight g
							TPH	TPS	
4	KPQL04-00	KPGL04-00	10.4	19.7	4.5	17	3.5	3.5	3
6	KPQL06-00	KPGL06-00	12.8	21.8	5.3	18.5	9	9	7
8	KPQL08-00	KPGL08-00	15.2	25.3	6	20.5	22	15	11
10	KPQL10-00	KPGL10-00	18.5	28.4	6.8	23	35	25	16
12	KPQL12-00	KPGL12-00	20.9	30.4	7.5	24	50	40	20



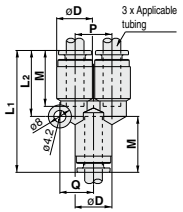
Union Tee: KPQT, KPGT

Applicable tubing O.D. mm	Model		øD	L	Q	M	Effective area mm²		Weight g
							TPH	TPS	
4	KPQT04-00	KPGT04-00	10.4	19.7	4.5	17	4	4	7
6	KPQT06-00	KPGT06-00	12.8	21.8	5.3	18.5	10	10	9
8	KPQT08-00	KPGT08-00	15.2	25.3	6	20.5	26	18	16
10	KPQT10-00	KPGT10-00	18.5	28.4	6.8	23	41	29	25
12	KPQT12-00	KPGT12-00	20.9	30.4	7.5	24	58	46	29



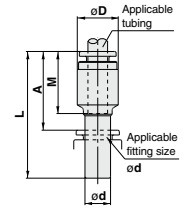
Union "Y": KPQU, KPGU

Applicable tubing O.D. mm	Model		øD	L_1	L_2	P	Q	M	Effective area mm²		Weight g
									TPH	TPS	
4	KPQU04-00	KPGU04-00	10.4	36.8	19.6	10.4	9.7	17	4	4	7
6	KPQU06-00	KPGU06-00	12.8	40.1	21.8	12.8	11.7	18.5	10	10	10
8	KPQU08-00	KPGU08-00	15.2	46.7	26.5	15.2	13.7	20.5	26	18	17
10	KPQU10-00	KPGU10-00	18.5	52	29.7	18.5	16.1	23	41	29	26
12	KPQU12-00	KPGU12-00	20.9	55.2	31.9	20.9	18.1	24	58	46	32



Plug-in Reducer: KPQR, KPGR

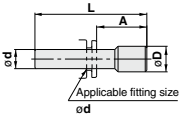
Applicable tubing O.D. mm	Applicable fitting size ød	Model		øD	L	A	M	Effective area mm²		Weight g
								TPH	TPS	
4	6	KPQR04-06	KPGR04-06	10.4	38.4	19.1	17	4	4	3
	8	KPQR04-08	KPGR04-08		40.9	19.2				4
6	8	KPQR06-08	KPGR06-08	12.8	41.5	19.8	18.5	10	10	4
	10	KPQR06-10	KPGR06-10		44	20.2				5
8	10	KPQR08-10	KPGR08-10	15.2	46	22.2	20.5	26	18	5
	12	KPQR08-12	KPGR08-12		47					6
10	12	KPQR10-12	KPGR10-12	18.5	49.5	24.7	23	41	29	9



Plug: KPP

Applicable fitting size ød	Model	øD	L	A	Weight g
4	KPP-04	6	32	13.8	0.4
6	KPP-06	8	35	15.7	0.7
8	KPP-08	10	39	17.3	1.1
10	KPP-10	12	43	19.2	1.7
12	KPP-12	14	45.5	20.7	2.5

∗ The plug is commom for KPQ, KPG and KP series.



KP/KPQ/KPG Series
Specific Product Precautions

Be sure to read this before handling the products.
Refer to page 11 for safety instructions and pages 14 to 18 for fittings and tubing precautions.

Selection

⚠Caution

1. Please consult with SMC regarding fluids other than air, water and N_2.

Handling

⚠Caution

1. Store away from direct sunlight at 40°C or less.

2. Open the inner package of double packaging in a clean room or other clean environment.

Installation of Threads

⚠Caution

Be sure to wrap sealing tape around the taper threads for both resin and metal threads.
If used without sealing tape air leakage can occur.

1. KP Series (with resin thread)

1) Winding of sealant tape
Wrap the pipe tape 2 to 3 times around the threads, leaving 1.5 to 2 thread ridges exposed at the end of the threads.

2) Tightening
After tightening by hand, tighten an additional 2 to 3 turns using a tightening tool.

Installation and Removal of Tubing

⚠Caution

1. Installation of tubing

1) Grease is not used due to the KP series oil-free specifications. For this reason, greater insertion force is required when tubing is installed. In particular, polyurethane tubing may fold when inserted due to its softness. Hold the end of the tubing, and insert it all the way in slowly and securely. Refer to dimension "M" in the dimension drawings for guidance on the insertion depth of tubing.

2. Removal of tubing

1) The outside diameter of tubes that have been used at high temperatures or for long periods of time will expand, and in some cases pipe fittings cannot be reattached. Tubes that cannot be attached should be discarded and replaced with new ones.

Operating Environment

⚠Warning

1. Do not use in environments or locations where there is a danger of damage to fittings and tubing.
For fitting and tubing materials, refer to specifications and construction drawings, etc.

2. Provide shade in locations which receive direct sunlight.

⚠Caution

1. KP series are special One-touch fittings for use on clean blowing and washing lines.
Please consult with SMC regarding other types of applications.

Seal material: The durability of EPDM with respect to mineral oils is inferior, making it unsuitable for piping in general pneumatic equipment.
Use KPQ and KPG series for piping to general pneumatic equipment.

Maintenance

⚠Caution

1. Tightening of blow fittings (resin taper threads for piping)
Since KP series taper threads are made of resin, minute leakage may gradually occur due to stress relaxation. Perform periodic inspections, and if leakage is detected correct the problem by further tightening. If additional tightening becomes ineffective, replace the fitting with a new product.

2. Check for the following during regular maintenance, and replace components as necessary.
a) Scratches, gouges, abrasion, corrosion
b) Leakage, refer to item 3 regarding taper thread leakage.
c) Twisting, flattening or distortion of tubing
d) Hardening, deterioration or softness of tubing

3. Do not repair or patch the replaced tubing or fittings for reuse.