Stainless One-touch Fittings
Series KG

Guide

Collet

Chuck

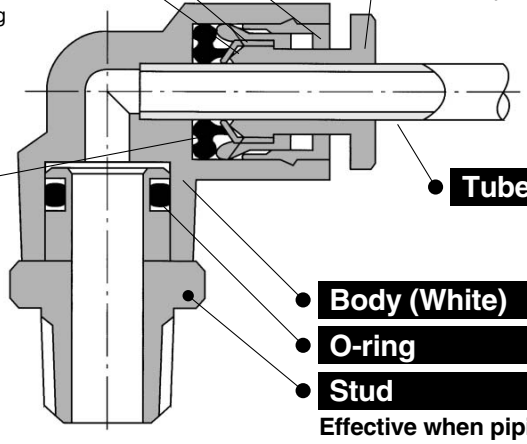
Suitable for use with nylon, soft nylon and urethane. Large retaining force.

Has large retaining force while holding force is increased by the collet.

Release button (White)

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 excessively.



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.

Tube

Body (White)

O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate.

PAT.

Stainless specifications applicable to corrosive environments

Stainless steel 303 adopted for metal elements

Suitable for use in CRT production lines where contact with copper must be avoided, food processing machines where water or salt water splashes and clean room where discoloration of copper material and corrosion must be avoided.

Applicable Tubing

Tubing material	Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid		Air/Water (1)
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)
	Nut section	JIS B 0211 Class 2 (Metric fine thread)
Seal (Thread portion)		With seal or none (2)

Note 1) 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.
Note 2) Suffix "S" to the part number, if w/ seal is desired.

Principal Parts Material

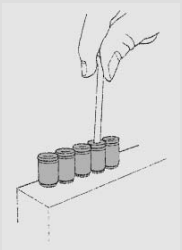
Body	Stainless steel 303, PBT
Stud	Stainless steel 303
Chuck	Stainless steel 304
Guide	Stainless steel 304, Stainless steel 303, POM
Collet, Release button	POM
Seal, O-ring	NBR

Model

Hex. socket head male connector

KGS P. 10

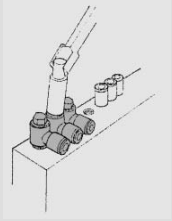
Internal hex. allows thread connection by using an allen wrench for confined spaces.



Universal male elbow

KGV P. 12

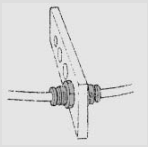
Universal male elbow allows thread connection by using a socket wrench for confined spaces.



Bulkhead union

KGE P. 18

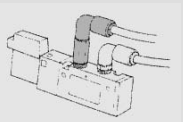
Use to connect tubes through a panel.



Extended male elbow

KGW P. 14

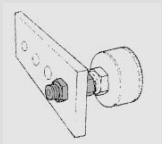
Basically, it is used together with male elbow. Different point is that it is used for fittings to avoid from interfering with each other by making the piping two-level.



Bulkhead connector

KGE P. 18

Use to connect male thead and tube through a panel.



Male connector

KGH P. 10

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

Male elbow

KGL P. 11

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

Male branch tee

KGT P. 14

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

Female connector

KGF P. 11

Use to pipe from male thread such as pressure gauge.

Union elbow

KGL P. 13

Use to connect tubes at right angles.

Union tee

KGT P. 14

Use to connect tubes in both 90° directions.

Straight union

KGH P. 11

Use to connect tubes in the same direction.

Plug-in elbow

KGL P. 13

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

Different diameter tee

KGT P. 15

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

Different diameter straight

KGH P. 11

Use to connect different sized tubes.

Male delta union

KGD P. 15

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

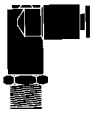
Male run tee

KGY P. 15

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

Male branch connector

KGLU P. 12



Use to branch line at right angles to female thread.

Delta union

KGD P. 16

Use to branch line in tripple 90° direction.

Different dia. double union "Y"

KGUD P. 17

Use to four-branch line in the same direction.

Branch union elbow

KGLU P. 13

Use to branch line at right angles.

Delta branch

KGUD P. 16

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

Union "Y"

KGU P. 17

Use to branch line in the same direction.

Model

Different dia. union "Y"

KGU P. 17

Use to connect tubes in the same direction, reducing the size of tubes.

Plug-in reducer

KGR P. 17

Use to change size of One-touch fittings.

Tube cap

KGC P. 18

Use to plug unused tubing.

Branch

KGU P. 16

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

Male Connector: KGH

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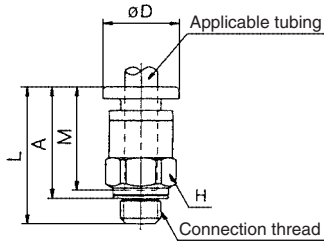

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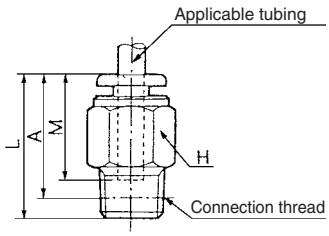

Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	øD (1)	L	A*	M	Effective area (2) (mm²) Nylon	Effective area (2) (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGH04-M5**	8	8	17	14	13	4	4	2.4
	1/8	**KGH04-01**	10	—	22	18	16	5.6	4	9
	1/4	**KGH04-02**	14	—	19.5	13.5				16
6	M5 x 0.8	**KGH06-M5**	10	10	18.5	15	14	4	4	3.4
	1/8	**KGH06-01**	12	—	22.5	18.5	17	13.1	10.4	16
	1/4	**KGH06-02**	14	—	23	17				14
	3/8	**KGH06-03**	17	—	22	15.5				27
8	1/8	**KGH08-01**	14	—	28	24	18.5	26.1	18.0	21
	1/4	**KGH08-02**			26.5	20.5				19
	3/8	**KGH08-03**	17	—	22	15.5				26
10	1/8	**KGH10-01**	17	—	30	26	21	41.5	29.5	19
	1/4	**KGH10-02**			33.5	27.5				30
	3/8	**KGH10-03**			29	22.5				30
	1/2	**KGH10-04**	22	—	27	19				53
12	1/4	**KGH12-02**	19	—	34.5	28.5	22	58.3	46.1	42
	3/8	**KGH12-03**			30	23.5				34
	1/2	**KGH12-04**	22			22				51
16	3/8	**KGH16-03**	24	—	39.5	32	24	81	(81)	61
	1/2	**KGH16-04**			35.5	26.5		113	(96)	47

* Reference dimensions after R thread installation.
Note 1) øD: Max. diameter
Note 2) ( ): Values for nylon.

Hexagon Socket Head Male Connector: KGS

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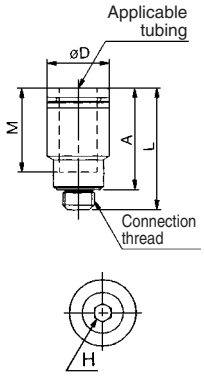

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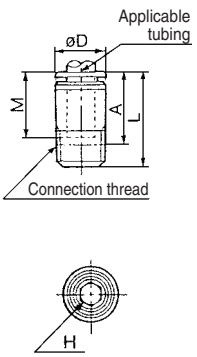
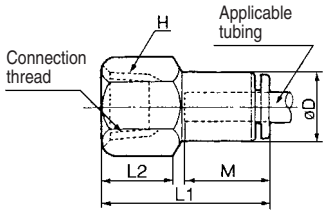


Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	øD Note)	L	A*	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGS04-M5**	2.5	9.5	19	15.5	13	4	4	2.6
	1/8	**KGS04-01**	3	9.8	23	19	16	4.1	3.6	8
6	M5 x 0.8	**KGS06-M5**	2.5	11.5	20	16.5	14	4	4	3.2
	1/8	**KGS06-01**	4	11.8	24	20	17	10.0	9.9	9
	1/4	**KGS06-02**		13.8		18		10.7	10.0	15
8	1/8	**KGS08-01**	5	14	28	24	18.5	17.2	16.2	12
	1/4	**KGS08-02**	6		25.5	19.5		23.3		11
	3/8	**KGS08-03**		17	27.5	21				24
10	1/8	**KGS10-01**	5	17	30	26	21	17.2	10.0	18
	1/4	**KGS10-02**	8		27.5	21.5		39.0	26.6	12
	3/8	**KGS10-03**				21				19
	1/2	**KGS10-04**		22	28	20				35
12	1/4	**KGS12-02**	8	19	33.5	27.5	22	46.0	44.5	23
	3/8	**KGS12-03**	10		29	22.5		60.0		18
	1/2	**KGS12-04**		22	28	20				30

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

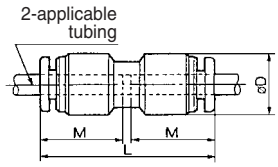
Female Connector: KGF



Applicable tubing O.D. (mm)	Connection thread Rc	Model	H (width across flats)	øD Note)	L1	L2	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	1/8	**KGF04-01**	14	10	27	11	16	5.6	4	15
	1/4	**KGF04-02**	17		31	14				23
6	1/8	**KGF06-01**	14	12	27.5	11	17	13.1	10.4	15
	1/4	**KGF06-02**	17		31	13				22
	3/8	**KGF06-03**	19		33.5	15				25
8	1/8	**KGF08-01**	14	14	29	11	18.5	26.1	18.0	17
	1/4	**KGF08-02**	17		32.5	13				24
	3/8	**KGF08-03**	19		33.5	14				24
10	1/4	**KGF10-02**	17	17	34.5	14	21	41.5	29.5	27
	3/8	**KGF10-03**	19		36.5	15				30
12	1/4	**KGF12-02**	19	19	35	14	22	58.3	46.1	36
	3/8	**KGF12-03**			37					31
	1/2	**KGF12-04**	24		41	18				52

Note) øD: Max. diameter

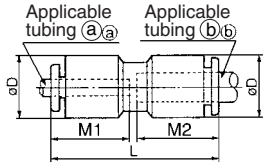
Straight Union: KGH



Applicable tubing O.D. (mm)	Model	øD Note)	L	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	**KGH04-00**	10.4	32.5	16	5.6	4	3
6	**KGH06-00**	12.8	34.5	17	13.1	10.4	4
8	**KGH08-00**	15.2	38.5	18.5	26.1	18.0	6
10	**KGH10-00**	18.5	42.5	21	41.5	29.5	11
12	**KGH12-00**	20.9	44.5	22	58.3	46.1	14

Note) øD: Max. diameter

Different Diameter Straight: KGH



Applicable tubing O.D. (mm) ⓐ	Applicable tubing O.D. (mm) ⓑ	Model	øD Note)	L	M1	M2	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	6	**KGH04-06**	12.8	34.5	16	17	5.6	4	5
6	8	**KGH06-08**	15.2	38.5	17	18.5	13.1	10.4	6
8	10	**KGH08-10**	18.5	42	18.5	21	26.1	18.0	11
10	12	**KGH10-12**	20.9	44.5	21	22	41.5	29.5	14

Note) øD: Max. diameter

Male Elbow: KGL

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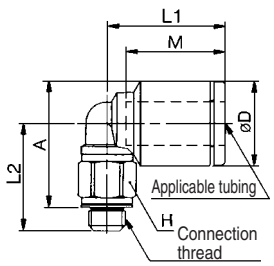

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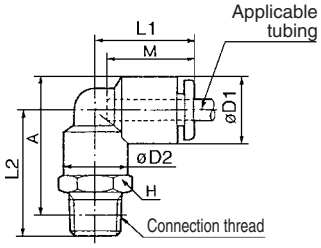

Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	(1) øD1	øD2	L1	L2	A*	M	Effective area (2) mm² Nylon	Effective area (2) mm² Urethane	Weight (g)
4	M5 x 0.8	**KGL04-M5**	7	9.5	—	16	13.5	15	13	3.5	3.5	2.7
	1/8	**KGL04-01**	10	10.4	10	18	22	23	16	4.2	4.2	10
	1/4	**KGL04-02**	14				26	25				19
6	M5 x 0.8	**KGL06-M5**	7	11.5	—	16	14.5	17	14	3.5	3.5	3.1
	1/8	**KGL06-01**	10	12.8	10	20	23	25.5	17	11.4	9.0	12
	1/4	**KGL06-02**	14				27	27.5				10
	3/8	**KGL06-03**	17				29	29				33
8	1/8	**KGL08-01**	12	15.2	12	23	24.5	28	18.5	21.6	14.9	13
	1/4	**KGL08-02**	14				28.5	30				21
	3/8	**KGL08-03**	17				30.5	31.5				35
10	1/8	**KGL10-01**	17	18.5	17	26.5	27	32	21	21.6	14.9	25
	1/4	**KGL10-02**					30	33		35.2	25.0	26
	3/8	**KGL10-03**					32	34.5				36
	1/2	**KGL10-04**	22				36	37				63
12	1/4	**KGL12-02**	17	20.9	17	28.5	31	35.5	22	50.2	39.7	28
	3/8	**KGL12-03**					33	37				38
	1/2	**KGL12-04**	22				37	39.5				65
16	3/8	**KGL16-03**	22	26.5	20.9	34	38	44.5	24	71	(71)	101
	1/2	**KGL16-04**					41	46		100	(84)	105

* Reference dimensions after R thread installation.
Note 1) øD1: Max. diameter
Note 2) ( ): Values for nylon.

Male Branch Connector: KGLU

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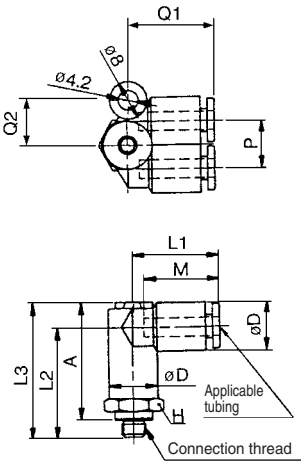

Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD	L1	L2	L3	A*	M	P	Q1	Q2	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGLU04-M5**	11	10.4	18.5	24	29.5	25.5	16	10.4	18.5	10	4.3	4.1	10
	1/8	**KGLU04-01**				26.5	32	27.5					6.0	4.1	12
	1/4	**KGLU04-02**	14			30.5	36	30							21
6	M5 x 0.8	**KGLU06-M5**	13	12.8	21	26.5	33	29.5	17	12.8	20.5	12	4.3	4.3	13
	1/8	**KGLU06-01**				29.5	36	32					13.9	11.0	15
	1/4	**KGLU06-02**	14			33	39.5	33.5							22
	3/8	**KGLU06-03**	17			35	41.5	35							35
8	1/8	**KGLU08-01**	17	15.2	24	34	41.5	38	18.5	15.2	24.5	14	26.3	18.2	27
	1/4	**KGLU08-02**				37	44.5	38.5							
	3/8	**KGLU08-03**				38	45.5	39							35
10	1/4	**KGLU10-02**	19	18.5	27	40	49.5	43.5	21	18.5	28	16	40.8	29.0	41
	3/8	**KGLU10-03**				41	50.5	44							42
	1/2	**KGLU10-04**	22			44.5	54	45.5							64
12	1/4	**KGLU12-02**	22	20.9	29	42.5	53	47	22	20.9	30	18	57.2	45.2	57
	3/8	**KGLU12-03**				43.5	54	47.5							58
	1/2	**KGLU12-04**				46.5	57	49							65

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

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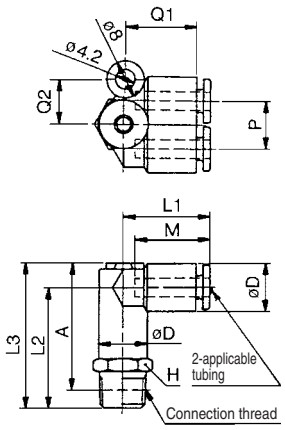

Universal Male Elbow: KGV

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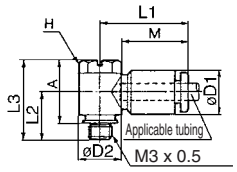
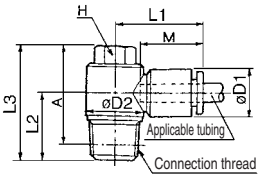


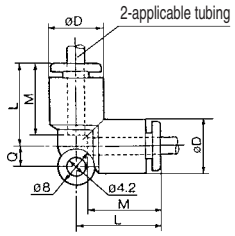
Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGV04-M5**	8	10.4	9.8	20.5	11	18.5	15	16	2.9	2.9	6
	1/8	**KGV04-01**			13.4	22	14.5	26.5	22.5				14
6	M5 x 0.8	**KGV06-M5**	8	12.8	9.8	23.5	12	18.5	15	17	3.8	3.8	7
	1/8	**KGV06-01**			13.4	24	14.5	26.5	22.5		7.5	5.9	15
	1/4	**KGV06-02**	10		15.3	23.5	18.5	31	25				26
8	1/8	**KGV08-01**	12	15.2	17.6	28.5	15.5	28.5	24.5	18.5	16	11.2	24
	1/4	**KGV08-02**					18.5	31.5	25.5				30
	3/8	**KGV08-03**	14		20.6	27.5	20.5	36.5	30		20.5	14.3	47
10	1/4	**KGV10-02**	14	18.5	20.6	31	19.5	35.5	29.5	21	27	20.3	40
	3/8	**KGV10-03**					20.5	36.5	30				49
12	3/8	**KGV12-03**	17	20.9	25.2	34	22	38.5	32	22	39	30.8	63
	1/2	**KGV12-04**					25	41.5	33.5				80

<R>



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

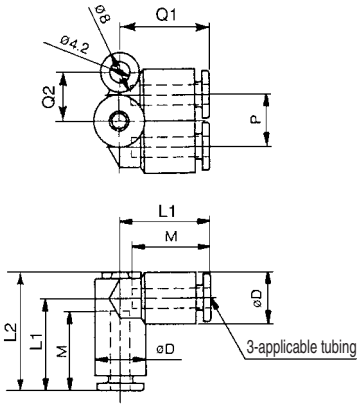
Union Elbow: KGL



Applicable tubing O.D. (mm)	Model	øD (1)	L	Q	M2	Effective area (2) (mm²)		Weight (g)
						Nylon	Urethane	
4	**KGL04-00**	10.4	18	4.5	16	4.2	4.2	6
6	**KGL06-00**	12.8	20	5.3	17	11.4	9.0	6
8	**KGL08-00**	15.2	23	6	18.5	21.6	14.9	10
10	**KGL10-00**	18.2	26.5	6.8	21	35.2	25.0	17
12	**KGL12-00**	20.9	28.5	7.5	22	50.2	39.7	21
16	**KGL16-00**	26.5	34	10	25	100	(84)	29

Note 1) øD: Max. diameter
Note 2) ( ): Values for nylon.

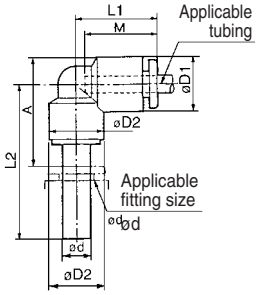
Branch Union Elbow: KGLU



Applicable tubing O.D. (mm)	Model	Note) øD	L1	L2	Q1	Q2	M	P	Effective area (mm²)		Weight (g)
									Nylon	Urethane	
4	**KGLU04-00**	10.4	18.5	24	18.5	10	16	10.4	6.0	4.1	6
6	**KGLU06-00**	12.8	21	27.5	20.5	12	17	12.8	13.9	11.0	8
8	**KGLU08-00**	15.2	24	32	24.5	14	18.5	15.2	26.3	18.2	15
10	**KGLU10-00**	18.5	27	36.5	28	16	21	18.5	40.8	29.0	25
12	**KGLU12-00**	20.9	29	40	30	18	22	20.9	57.2	45.2	32

Note) øD: Max. diameter

Plug-in Elbow: KGL

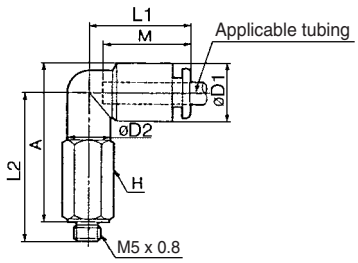


Applicable tube O.D. mm	Applicable fitting size ød	Model	Note) øD1	øD2	L1	L2	A	M	Effective area (mm²)		Weight (g)
									Nylon	Urethane	
4	4	**KGL04-99**	10.4	8	18	25	14.5	16	4.2	4.2	8
6	6	**KGL06-99**	12.8	10	20	27.5	17	17	11.4	9.0	10
8	8	**KGL08-99**	15.2	12	22.5	31.5	21	18.5	21.6	14.9	14
10	10	**KGL10-99**	18.5	14	25.5	35.5	23.5	21	35.2	25.0	25
12	12	**KGL12-99**	20.9	16	27	37.5	26	22	50.2	39.7	28

Note) øD1: Max. diameter

Extended Male Elbow: KGW

<M5>



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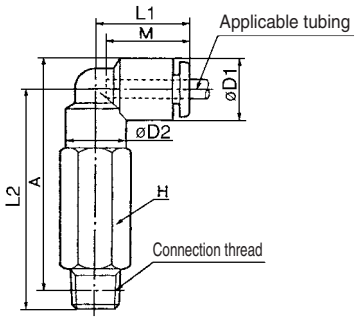
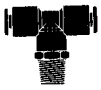


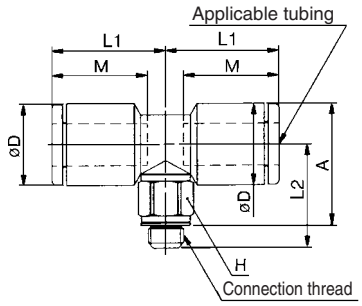
Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD1	øD2	L1	L2	A*	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGW04-M5**	8	10.4	8	18	30	32	16	3.0	3.0	11
	1/8	**KGW04-01**	10		10		37.5	38.5		4.0	4.0	23
	1/4	**KGW04-02**	14				43.5	42.5				38
6	M5 x 0.8	**KGW06-M5**	8	12.8	8	20	30.5	33.5	17	3.0	3.0	11
	1/8	**KGW06-01**	10		10		40	42.5		10.9	8.6	26
	1/4	**KGW06-02**	14				46	46.5				41
	3/8	**KGW06-03**	17				48	48				67
8	1/8	**KGW08-01**	12	15.2	12	23	43.5	47	18.5	20.5	14.2	30
	1/4	**KGW08-02**	14				49.5	51				47
	3/8	**KGW08-03**	17				51.5	52.5				74
10	1/4	**KGW10-02**	17	18.5	17	26.5	56.5	59.5	21	33.5	23.8	66
	3/8	**KGW10-03**					58.5	61				76
	1/2	**KGW10-04**	22				65	66				145
12	1/4	**KGW12-02**	17	20.9	17	28.5	57.5	62	22	47.7	37.7	68
	3/8	**KGW12-03**					59.5	63.5				78
	1/2	**KGW12-04**	22				66	68.5				147

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



Male Branch Tee: KGT

<M5>



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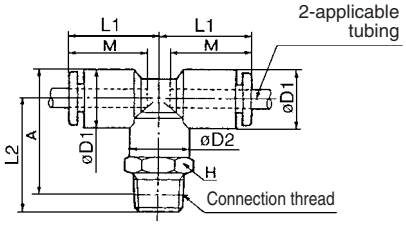
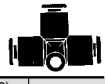
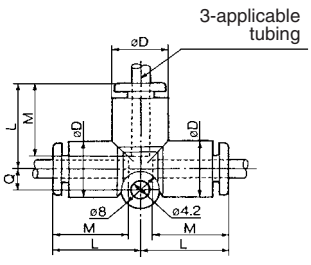


Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	(1) øD1	øD2	L1	L2	A*	M	Effective area (2) (mm²) Nylon	Effective area (2) (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGT04-M5**	7	9.5	—	15.5	14	15.5	13	4.3	4.3	3.5
	1/8	**KGT04-01**	10	10.4	10	18	22	23	16	6.0	4.1	13
	1/4	**KGT04-02**	14				26	25				19
6	M5 x 0.8	**KGT06-M5**	7	11.5	—	16	15	17.5	14	4.3	4.3	4.2
	1/8	**KGT06-01**	10	12.8	10	20	23	25.5	17	13.9	11.0	12
	1/4	**KGT06-02**	14				27	27.5				20
	3/8	**KGT06-03**	17				29	29				34
8	1/8	**KGT08-01**	12	15.2	12	23	24.5	28	18.5	26.3	18.2	14
	1/4	**KGT08-02**	14				28.5	30				22
	3/8	**KGT08-03**	17				30.5	31.5				36
10	1/8	**KGT10-01**	17	18.5	17	26.5	27	32	21	40.8	29.0	31
	1/4	**KGT10-02**					30	33				29
	3/8	**KGT10-03**					32	34.5				39
	1/2	**KGT10-04**	22				36	37				66
12	1/4	**KGT12-02**	17	20.9	17	28.5	31	35.5	22	57.2	45.2	31
	3/8	**KGT12-03**					33	37				41
	1/2	**KGT12-04**	22				37	39.5				68
16	3/8	**KGT16-03**	22	26.5	20.9	34	38	44.5	25	71	(71)	112
	1/2	**KGT16-04**					40.5	46		100	(100)	116

∗ Reference dimensions after R thread installation.
Note 1) øD1: Max. diameter
Note 2) ( ): Values for soft nylon



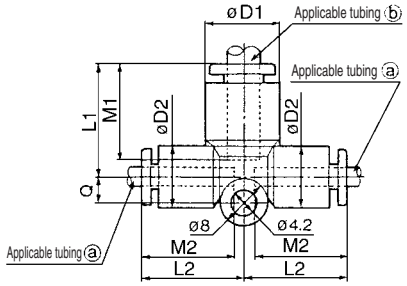
Union Tee: KGT



Applicable tubing O.D. (mm)	Model	(1) øD	L	Q	M	Effective area (2) (mm²) Nylon	Effective area (2) (mm²) Urethane	Weight (g)
4	**KGT04-00**	10.4	18	4.5	16	6.4	4.4	7
6	**KGT06-00**	12.8	20	5.3	17	13.4	10.6	10
8	**KGT08-00**	15.2	23	6	18.5	25.6	17.7	15
10	**KGT10-00**	18.5	26.5	6.8	21	40	28.4	25
12	**KGT12-00**	20.9	28.5	7.5	22	57.4	45.4	29
16	**KGT16-00**	26.5	34	10	25	100	(84)	40

Note 1) øD: Max. diameter
Note 2) ( ): Values for nylon.

Different Diameter Tee: KGT

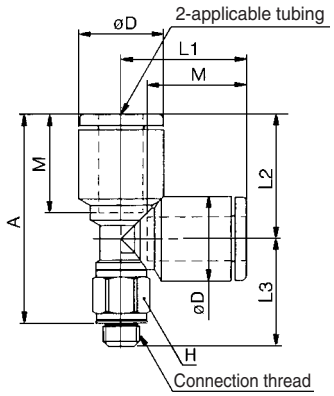


Applicable tubing O.D. (mm) ⓐ	Applicable tubing O.D. (mm) ⓑ	Model	Note) øD1	øD2	L1	L2	Q	M1	M2	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	6	**KGT04-06**	12.8	10.4	19.5	18	4.5	17	16	7.1	6.5	5
6	8	**KGT06-08**	15.2	12.8	22.5	20	5.3	18.5	17	16.4	16.4	8
8	10	**KGT08-10**	18.5	15.2	26.5	23	6	21	18.5	36	27.2	14
10	12	**KGT10-12**	20.9	18.5	28.5	26.5	6.8	22	21	56	44.5	21

Note) øD1: Max. diameter

Male Run Tee: KGY

<M5>



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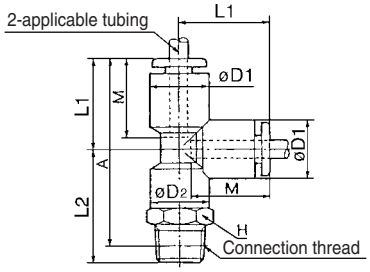
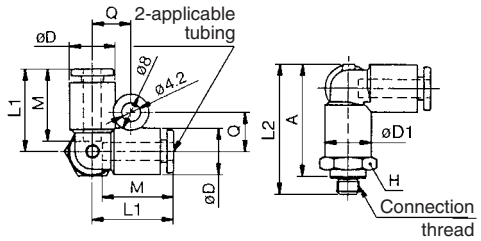


Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	(1) øD1	øD2	L1	L2	L3	A*	M	Effective area (2) (mm²) Nylon	Effective area (2) (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGY04-M5**	7	9.5	—	16	13.5	15	25.5	13	4.6	4.6	3.5
	1/8	**KGY04-01**	10	10.4	10	18	22	—	36	16	6.4	4.4	13
	1/4	**KGY04-02**	14				26		38				19
6	M5 x 0.8	**KGY06-M5**	7	11.5	—	17.5	14.5	17.5	29	14	4.6	4.6	4.3
	1/8	**KGY06-01**	10	12.8	10	20	23		39	17	13.4	10.6	12
	1/4	**KGY06-02**	14				27		41				20
	3/8	**KGY06-03**	17				29		42.5				34
8	1/8	**KGY08-01**	12	15.2	12	23	24.5		43.5	17	13.4	10.6	14
	1/4	**KGY08-02**	14				28.5		45.5	18.5	25.6	17.7	22
	3/8	**KGY08-03**	17				30.5		47				36
10	1/8	**KGY10-01**	17	18.5	17	26.5	27	—	49.5	21	40.0	28.4	31
	1/4	**KGY10-02**					30		50.5				29
	3/8	**KGY10-03**					32		52				39
	1/2	**KGY10-04**	22				36		54.5				66
12	1/4	**KGY12-02**	17	20.9	17	28.5	31		53.5	22	57.4	45.4	31
	3/8	**KGY12-03**					33		55				41
	1/2	**KGY12-04**	22				37		57.5				68
16	3/8	**KGY16-03**	22	26.5	20.9	34	38		65.5	25	81	(81)	112
	1/2	**KGY16-04**					41		67		113	(113)	116

∗ Reference dimensions after R thread installation.
Note 1) øD1: Max. diameter
Note 2) ( ): Values for nylon.

Male Delta Union: KGD

<M5>



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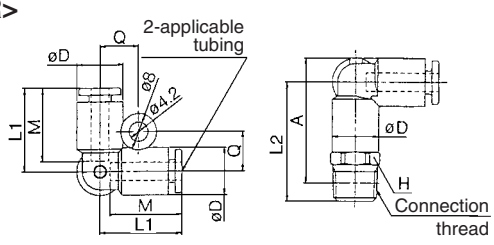
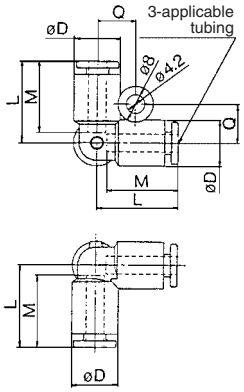


Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD	L1	L2	A*	M	Q	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	M5 x 0.8	**KGD04-M5**	11	10.4	18.5	24	25.5	16	8.7	4.3	4.3	10
	1/8	**KGD04-01**				26.5	27.5			6.0	6.0	12
	1/4	**KGD04-02**	14			30.5	30					21
6	M5 x 0.8	**KGD06-M5**	13	12.8	20.5	26	28.5	17	9.9	4.3	4.3	12
	1/8	**KGD06-01**				29	31.5			13.9	11.0	14
	1/4	**KGD06-02**	14			32.5	33					21
	3/8	**KGD06-03**	17			34.5	34.5					34
8	1/8	**KGD08-01**	17	15.2	23.5	33.5	37	18.5	11.1	26.3	18.2	26
	1/4	**KGD08-02**				36.5	38					
	3/8	**KGD08-03**				37.5	38.5					35
10	1/4	**KGD10-02**	19	18.5	26.5	39.5	43	21	12.8	40.8	29.0	39
	3/8	**KGD10-03**				40.5	43.5					40
	1/2	**KGD10-04**	22			44	45					62
12	1/4	**KGD12-02**	22	20.9	28.5	42	46.5	22	13.9	57.2	45.2	55
	3/8	**KGD12-03**				43	47					56
	1/2	**KGD12-04**				46	48.5					63

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

Delta Union: KGD

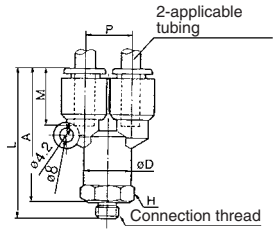


Applicable tubing O.D. (mm)	Model	Note) øD	L	Q	M	Effective area (mm²)		Weight (g)
						Nylon	Urethane	
4	**KGD04-00**	10.4	18.5	8.7	16	6.0	4.1	5
6	**KGD06-00**	12.8	20.5	9.9	17	13.9	11.0	7
8	**KGD08-00**	15.2	23.5	11.1	18.5	26.3	18.2	11
10	**KGD10-00**	18.5	26.5	12.8	21	40.8	29.0	19
12	**KGD12-00**	20.9	28.5	13.9	22	57.2	45.2	24

Note) øD: Max. diameter

Branch "Y": KGU

<M5>



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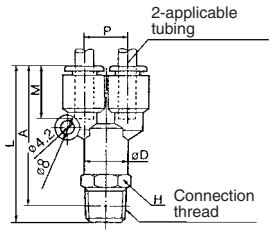
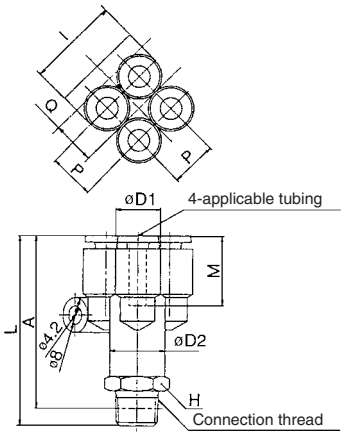


Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD	L	P	A*	M	Effective area (mm²)		Weight (g)
									Nylon	Urethane	
4	M5 x 0.8	**KGU04-M5**	11	10.4	39.5	10.4	36	16	2.2	2.2	4
	1/8	**KGU04-01**			42		38		4.2	4.2	11
	1/4	**KGU04-02**	14		46		40				20
6	M5 x 0.8	**KGU06-M5**	13	12.8	42.5	12.8	39	17	2.2	2.2	12
	1/8	**KGU06-01**			45.5		41.5		13.4	10.6	11
	1/4	**KGU06-02**	14		49		43				21
	3/8	**KGU06-03**	17		51		44.5				34
8	1/8	**KGU08-01**	17	15.2	52.5	15.2	48.5	18.5	25.6	17.7	15
	1/4	**KGU08-02**			55.5		49.5				23
	3/8	**KGU08-03**			56.5		50				35
10	1/4	**KGU10-02**	19	18.5	61	18.5	55	21	40	28.4	30
	3/8	**KGU10-03**			62		55.5				40
	1/2	**KGU10-04**	22		65		57				65
12	1/4	**KGU12-02**	22	20.9	64.5	20.9	58.5	22	57.4	45.4	32
	3/8	**KGU12-03**			65.5		59				40
	1/2	**KGU12-04**			68.5		60.5				65

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

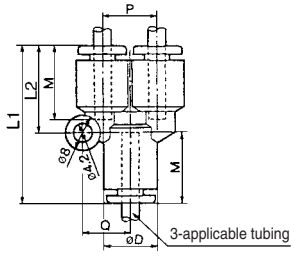
Delta Branch: KGUD



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD1	øD2	L	I	A*	Q	M	P	Effective area (mm²)		Weight (g)
												Nylon	Urethane	
4	1/8	**KGUD04-01**	13	10.4	12.8	43.5	21	39.5	9.7	16	10.4	4.2	4.2	17
	1/4	**KGUD04-02**	14			47		41						25
6	1/8	**KGUD06-01**	17	12.8	15.2	50.5	26	46.5	11.7	17	12.8	13.4	10.6	29
	1/4	**KGUD06-02**				53.5		47.5						

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

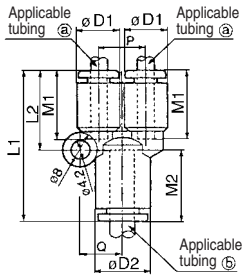
Union "Y": KGU



Applicable tubing O.D. (mm)	Model	Note) øD	L1	L2	P	Q	M	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	**KGU04-00**	10.4	34	18	10.4	9.7	16	4.2	4.2	7
6	**KGU06-00**	12.8	37	20	12.8	11.7	17	13.4	10.6	9
8	**KGU08-00**	15.2	42.5	24.5	15.2	13.7	18.5	25.6	17.7	11
10	**KGU10-00**	18.5	48	27.5	18.5	16.1	21	40	28.4	16
12	**KGU12-00**	20.9	51	30	20.9	18.1	22	57.4	45.4	23

Note) øD: Max. diameter

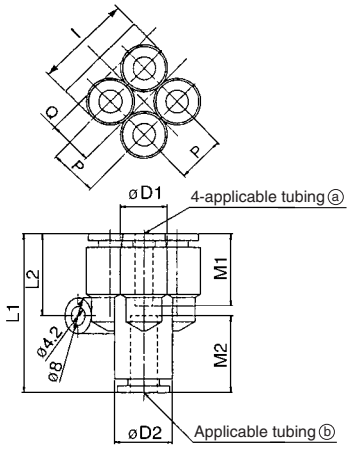
Different Diameter Union "Y": KGU



Applicable tubing O.D. (mm) ⓐ	Applicable tubing O.D. (mm) ⓑ	Model	Note) øD1	Note) øD2	L1	L2	P	Q	M1	M2	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	6	**KGU04-06**	10.4	12.8	35	18	10.4	9.7	16	17	4.2	4.2	6
6	8	**KGU06-08**	12.8	15.2	39.5	20	12.8	11.7	17	18.5	13.4	10.6	11
8	10	**KGU08-10**	15.2	18.5	45	24.5	15.2	13.7	18.5	21	25.6	17.7	18
10	12	**KGU10-12**	18.5	20.9	49	27.5	18.5	16.1	21	22	40	28.4	27

Note) øD1, øD2: Max. diameter

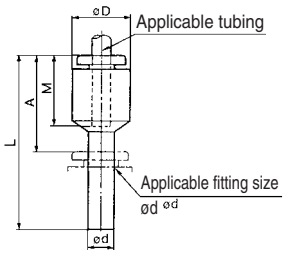
Different Diameter Double Union "Y": KGUD



Applicable tubing O.D. (mm) ⓐ	Applicable tubing O.D. (mm) ⓑ	Model	Note) øD1	Note) øD2	L1	L2	P	I	Q	M1	M2	Effective area (mm²) Nylon	Effective area (mm²) Urethane	Weight (g)
4	6	**KGUD04-06**	10.4	12.8	35.5	18.2	10.4	21	9.7	16	17	4.2	4.2	10
6	8	**KGUD06-08**	12.8	15.2	40.5	20.3	12.8	26	11.7	17	18.5	13.4	10.6	17

Note) øD1, øD2: Max. diameter

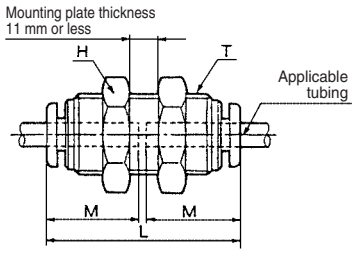
Plug-in Reducer: KGR



Applicable tubing O.D. (mm)	Applicable fitting size ød	Model	øD (1)	L	A	M	Effective area (2) (mm²) Nylon	Effective area (2) (mm²) Urethane	Weight (g)
4	6	**KGR04-06**	10.4	34.5	17.5	16	5.6	4	1.8
	8	**KGR04-08**		36.5	18				2.0
	10	**KGR04-10**	12.8	39.5	18.5				3.3
6	4	**KGR06-04**	12.8	37	21	17	4	4	3
	8	**KGR06-08**		37	18.5		13.1	10.4	2.5
	10	**KGR06-10**		39.5					3
	12	**KGR06-12**	15.2	42	20				4.7
8	10	**KGR08-10**	15.2	41	20	18.5	26.1	18.0	4.0
	12	**KGR08-12**		42					4.6
10	12	**KGR10-12**	18.5	44.5	23	21	41.5	32.8	33
	16	**KGR10-16**	20.9	50.5	25.5			(29.5)	42
12	16	**KGR12-16**	20.9	50.5	25.5	22	58.3	(46.1)	37

Note 1) øD: Max. diameter
Note 2) ( ): Values for nylon.

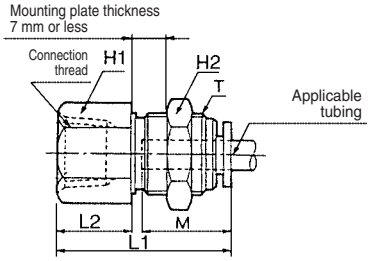
Bulkhead Union: KGE



Applicable tubing O.D. (mm)	Model	T (M)	H (width across flats)	L	Mounting hole	M	Effective area (1) (mm²)		Weight (g)
							Nylon	Urethane	
4	**KGE04-00**	M12 x 1	14	32.5	13	16	5.6	4	26
6	**KGE06-00**	M14 x 1	17	34.5	15	17	13.1	10.4	33
8	**KGE08-00**	M16 x 1	19	38	17	18.5	26.1	18.0	52
10	**KGE10-00**	M20 x 1	24	42.5	21	21	41.5	29.5	70
12	**KGE12-00**	M22 x 1	27	44	23	22	58.3	46.1	90
16	**KGE16-00**	M28 x 1.5	32	51	29	25	113	(96)	115

Note) Dimensions in ( ) are the case of soft nylon tube.

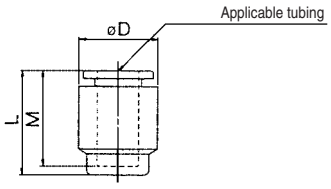
Bulkhead Connector: KGE



Applicable tubing O.D. (mm)	Connection thread Rc	Model	T (M)	H1 (width across flats)	H2 (width across flats)	L1	L2	Mounting hole	M	Effective area (1) (mm²)		Weight (g)
										Nylon	Urethane	
4	1/8	**KGE04-01**	M12 x 1	14	14	27.5	11	13	16	5.6	4	16
	1/4	**KGE04-02**		17		31	15					35
6	1/8	**KGE06-01**	M14 x 1	17	17	28	11	15	17	13.1	10.4	30
	1/4	**KGE06-02**				31.5	15					
	3/8	**KGE06-03**		19		33.5	17					29
8	1/8	**KGE08-01**	M16 x 1	17	19	27.5	7.5	17	18.5	26.1	18.0	28
	1/4	**KGE08-02**				33	13					27
	3/8	**KGE08-03**		19		35	15					48
10	1/4	**KGE10-02**	M20 x 1	22	24	34.5	12.5	21	21	41.5	29.5	53
	3/8	**KGE10-03**				36.5	14					67
12	3/8	**KGE12-03**	M22 x 1	24	27	37	14	23	22	58.3	46.1	92
	1/2	**KGE12-04**				41	18					59
16	3/8	**KGE16-03**	M28 x 1.5	30	32	40	14	29	25	96	(96)	127
	1/2	**KGE16-04**				44	18			113		132

Note) Dimensions in ( ) are the case of soft nylon tube.

Tube Cap: KGC



Applicable tubing O.D. (mm)	Model	Note) øD	L	M	Weight (g)
4	**KGC04-00**	10.4	17	16	3
6	**KGC06-00**	12.8	18.5	17	3
8	**KGC08-00**	15.2	20.5	18.5	4
10	**KGC10-00**	18.5	23	21	6
12	**KGC12-00**	20.9	24	22	8
16	**KGC16-00**	26.5	28	25	13

Note) øD: Max. diameter

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 Note 1), JIS B 8370 Note 2) 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 appllications 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, cynthetic 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.

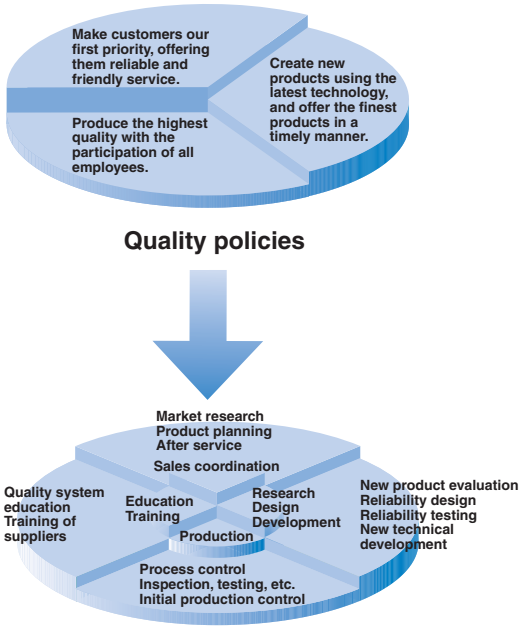
Do not take the product apart.

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.

SMC’s quality control system



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

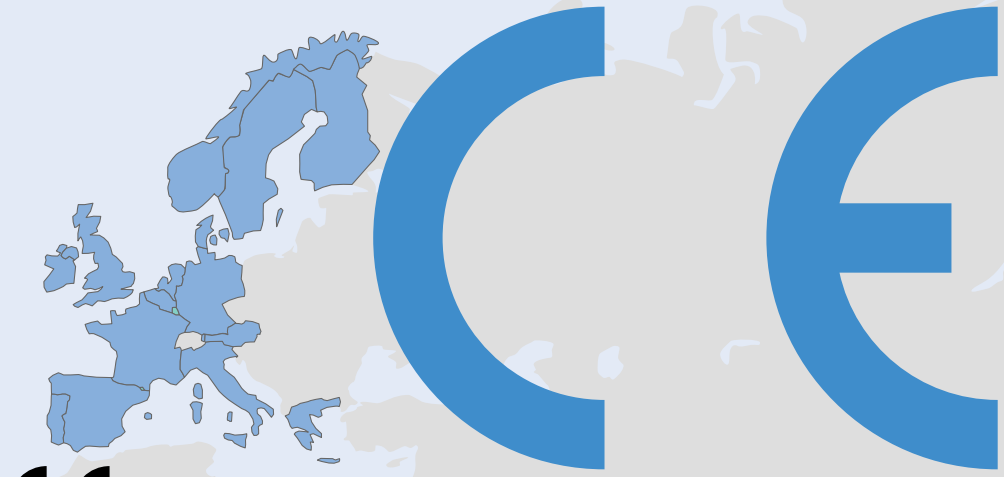
ISO 14001

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 Product Conforming to Inter

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



CE Mark

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.

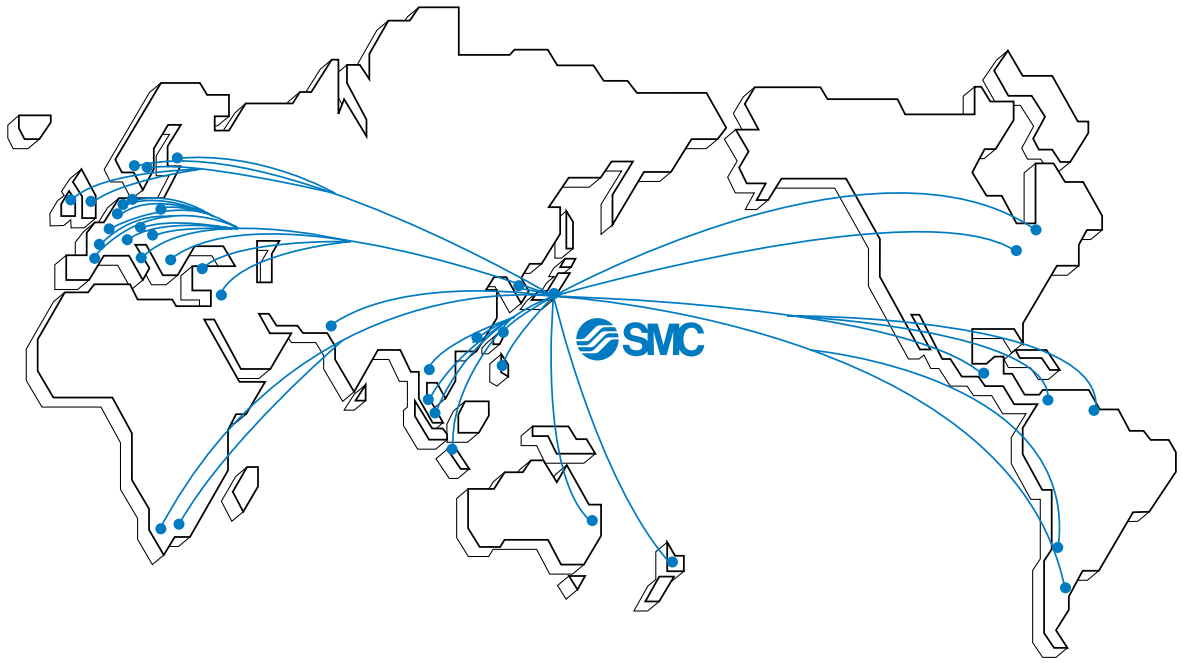
Products conforming to CE Standard

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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