

Inch-size One-touch Fittings

Series KQ2

Applicable Tubing: Inch Size
Connection Thread: UNF, NPT

How to Order

KQ 2 H 05 - 34 S -

One-touch fittings

Product's color

Symbol	Body	Release button
2	White	Orange
Nil	Black	Red

Applicable tubing O.D.

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

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

Port size/Applicable tubing O.D.

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

With thread sealant (Male thread)

Nil	None
S	With thread sealant



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

Model

H	Male connector
	Straight
	Different dia. straight *
S	Hexagon socket head male connector *
F	Female union *
L	Male elbow
	Elbow
	Plug-in elbow
	Reducer elbow
K	45° male elbow *
V	Universal male elbow *
VS	Hexagon socket head universal male elbow *
VF	Universal female elbow *
LF	Female elbow *
VD	Double universal male elbow *
VT	Triple universal male elbow *
Z	Branch universal male elbow *
ZD	Double branch universal male elbow *
ZT	Triple branch universal male elbow *
W	Extended male elbow
	Male branch tee
T	Union tee
	Different dia. tee *
TW	Cross union *
Y	Male run tee
	Branch "Y"
	Union "Y"
U	Plug-in "Y"
	Different dia. union "Y" *
X	Different dia. plug-in "Y" *
R	Plug-in reducer
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead union elbow *



* Available only for KQ2 (White color body).

Accessory

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

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

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

Series KQ2: White body
Series KQ: Black body

Guide

Collet

Chuck

Suitable for use with nylon and urethane.
Large retaining force.
Has large retaining force while holding force is increased by the collet.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Connection thread

UNF, NPT

Release button

KQ2: Orange
KQ: Red

Light force for removal
When the fitting is removed from the tube, the chuck and collet are released, thus preventing them from biting into the tube excessively.

Tube

Inch size
Ø1/8", Ø5/32", Ø3/16", Ø1/4", Ø5/16", Ø3/8", Ø1/2"

Body

O-ring

Stud

Effective when piping in a confined space.
The body and the threaded portion can rotate (for positioning to some extent).

PAT.

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



Product's Color

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

Applicable Tubing

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

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

Specifications

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



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

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



Made to Order
Refer to page 75 for details.

Principal Parts Material

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

Series KQ2

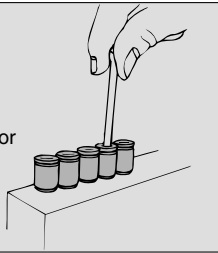
Model

Hex. socket head male connector

KQ2S P. 64



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

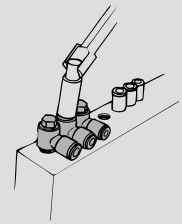


Universal male elbow

KQ2V P. 66



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

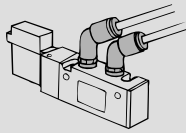


45° male elbow

KQ2K P. 66



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

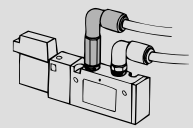


Extended male elbow

KQ2W P. 70



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

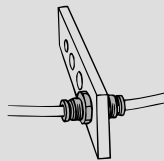


Bulkhead union

KQ2E P. 73



Use to connect tubes through a panel.

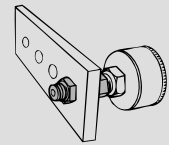


Bulkhead connector

KQ2E P. 74



Use to connect male thread and tube through a panel.

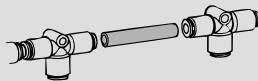


Nipple

KQ2N P. 74

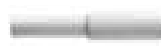


Use to connect One-touch fittings.

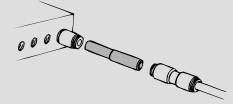


Reducer nipple

KQ2N P. 74



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



Male connector

KQ2H P. 64



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

Hexagon socket head universal male elbow

KQ2VS P. 66



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

Branch universal male elbow

KQ2Z P. 68



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

Female connector

KQ2F P. 64



Use to pipe from male thread such as pressure gauge.

Universal female elbow

KQ2VF P. 67



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

Double branch universal male elbow

KQ2ZD P. 68



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

Straight union

KQ2H P. 65



Use to connect tubes in the same direction.

Female elbow

KQ2LF P. 67



Use to pipe at right angles to male thread.

Triple branch universal male elbow

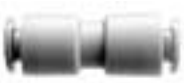
KQ2ZT P. 69



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

Different diameter straight

KQ2H P. 65



Use to connect different sized tubes.

Double universal male elbow

KQ2VD P. 67



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

Union elbow

KQ2L P. 69



Use to connect tubes at right angles.

Male elbow

KQ2L P. 65



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

Triple universal male elbow

KQ2VT P. 68



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

Plug-in elbow

KQ2L P. 69



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

Reducer elbow

KQ2L

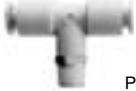


P. 69

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

Male branch tee

KQ2T



P. 70

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

Union tee

KQ2T



P. 70

Use to connect tubes in both 90° directions.

Different diameter tee

KQ2T



P. 71

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

Cross

KQ2TW



P. 71

Use to four-branch line.

Male run tee

KQ2Y



P. 71

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

Branch "Y"

KQ2U



P. 72

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

Union "Y"

KQ2U



P. 72

Use to branch line in the same direction.

Different dia. union "Y"

KQ2U



P. 72

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

Plug-in "Y"

KQ2U



P. 72

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

Different diameter plug-in "Y"

KQ2X



P. 73

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

Plug-in reducer

KQ2R



P. 73

Use to change size of One-touch fittings.

Bulkhead male elbow

KQ2LE



P. 73

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

Tube cap

KQ2C



P. 74

Use to plug unused tube.

Plug

KQ2P, KQP



P. 74

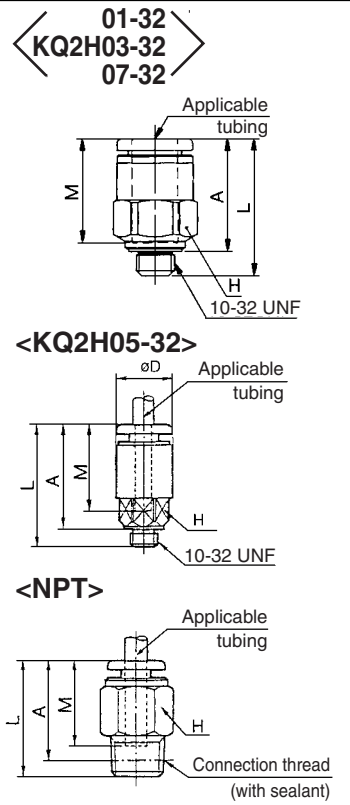
Use to plug unused One-touch fittings. KQP (Orange) KQ2P (Orange)

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

Series KQ2

Male Connector: KQ2H

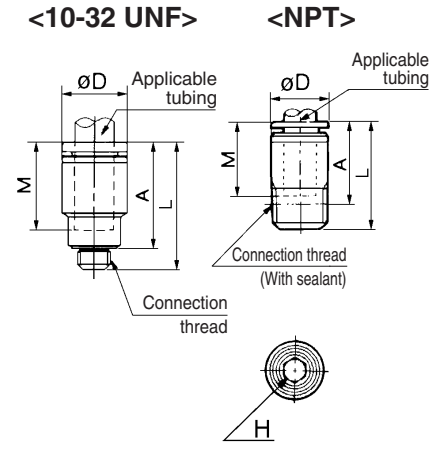
Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) ϕD	L	A*	M	Min. port size	Mass (g)		
01-32 KQ2H03-32 07-32	10-32 UNF	KQ2H01-32	7	-	16.7	13.7	12.7	2.3	2		
	1/16	KQ2H01-33S	11.11	-	22	18	15.5	2.5	7		
	1/8	KQ2H01-34S	-	21.1	-	9					
	1/4	KQ2H01-35S	14.29	-	19	13.5			16		
5/32	10-32 UNF	KQ2H03-32	8	-	17	14	12.7	2.3	2.4		
	1/16	KQ2H03-33S	11.11	-	22	18	16	3	7		
	1/8	KQ2H03-34S	-	21.1	-	9					
	1/4	KQ2H03-35S	14.29	-	19	13.5			16		
3/16	10-32 UNF	KQ2H05-32	8	11	24	20.4	16.5	2.3	6		
	1/8	KQ2H05-34S	12.7	-	21.1	18			11		
	1/4	KQ2H05-35S	14.29	-	20.5	15			12		
1/4	10-32 UNF	KQ2H07-32	11.11	-	18.4	15.4	13.6	2.3	3.3		
	1/8	KQ2H07-34S	12.7	-	21.6	18.5			17	4.6	10
	1/4	KQ2H07-35S	14.29	-	22.5	17					15
	3/8	KQ2H07-36S	17.46	-	20.9	16.5					27
5/16	1/8	KQ2H09-34S	14.29	-	27.6	24.5	18.5	6	15		
	1/4	KQ2H09-35S	-	26	20.5	16					
	3/8	KQ2H09-36S	17.46	-	20.9	15.5			24		
3/8	1/8	KQ2H11-34S	-	-	29.6	26.5	21	6	29		
	1/4	KQ2H11-35S	17.46	-	33	27.5			31		
	3/8	KQ2H11-36S	-	-	27.9	22.5			29		
	1/2	KQ2H11-37S	22.23	-	25.6	18.5			46		
1/2	1/4	KQ2H13-35S	-	-	34	28.5	22	9.6	44		
	3/8	KQ2H13-36S	22.23	-	31.9	26.5			44		
	1/2	KQ2H13-37S	-	-	29.1	22			44		



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

Hexagon Socket Head Male Connector: KQ2S

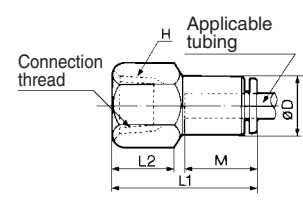
Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) ϕD	L	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2S01-32	2	7	19.7	16.6	12.7	2	2.8
	10-32 UNF	KQ2S03-32	2.5	8	18.7	15.6	12.7	2.3	2.7
5/32	1/8	KQ2S03-34S	2.78	10.5	23.5	19.5	16	2.8	8
	1/8	KQ2S05-34S	3.57	10.7	23.5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



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

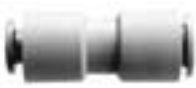
Female Connector: KQ2F

Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) ϕD	L1	L2	M	Min. port size	Mass (g)
1/8	1/8	KQ2F01-34	14.29	9.2	26.5	11.5	15.5	2.5	16
	1/4	KQ2F01-35	17.46		30.5	14.5			26
5/32	1/8	KQ2F03-34	14.29	10	27	11	16	3	15
	1/4	KQ2F03-35	17.46		31	13.5			24
1/4	1/8	KQ2F07-34	14.29	12.5	27.5	10.5	17	4.6	17
	1/4	KQ2F07-35	17.46		31	13.5			25
	3/8	KQ2F07-36	22.23		33.5	15.5			44
5/16	1/8	KQ2F09-34	14.29	14	29	10.5	18.5	6	18
	1/4	KQ2F09-35	17.46		32.5	13.5			26
	3/8	KQ2F09-36	22.23		34.5	13			38
3/8	1/4	KQ2F11-35	17.46	16.5	34.5	15	21	7	30
	3/8	KQ2F11-36	22.23		36.5	15			48
	1/2	KQ2F11-37	23.81		40.5	19			52
1/2	3/8	KQ2F13-36	22.23	20	36.5	14.5	22	9.6	48
	1/2	KQ2F13-37	23.81		41	18.5			53



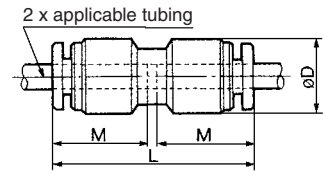
Note) ϕD : Max. diameter

Straight Union: KQ2H

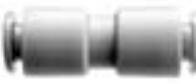


Applicable tubing O.D. (inch)	Model	Note) ϕD	L	M	Min. port size	Mass (g)
1/8	KQ2H01-00	9.6	31.5	15.5	2.5	3
5/32	KQ2H03-00	10.4	32.5	16	3	3
3/16	KQ2H05-00	11.4	34	16.5	3.5	4
1/4	KQ2H07-00	13.2	34.5	17	4.6	4
5/16	KQ2H09-00	15.2	38.5	18.5	6	6
3/8	KQ2H11-00	17.9	42.5	21	7	11
1/2	KQ2H13-00	21.7	44.5	22	9.6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

Note) ϕD : Max. diameter

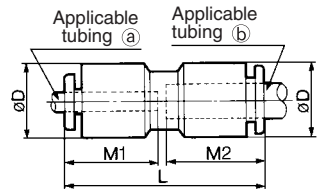


Different Diameter Straight: KQ2H



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

Note) ϕD : Max. diameter



Male Elbow: KQ2L

01-32
KQ2L03-32
07-32



<KQ2L05-32>



<NPT>

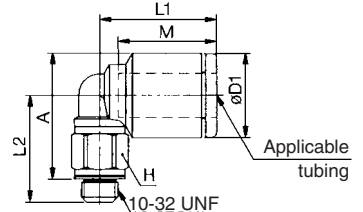


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	A*	M	Min. port size	Mass (g)	
1/8	10-32 UNF	KQ2L01-32	7	8.4	-	15.3	13.2	14.5	12.7	2.3	2.5	
	1/16	KQ2L01-33S	11.11	9.6	10	17.5	21.5	22.5	15.5	2.5	8	
	1/8	KQ2L01-34S	14.29				25	24.5				18
	1/4	KQ2L01-35S	14.29				25	24.5				18
5/32	10-32 UNF	KQ2L03-32	7				9.3	-				15.6
5/32	1/16	KQ2L03-33S	11.11	10.4	10	18	22	23	16	3	8	
	1/8	KQ2L03-34S	14.29				21.1	23			9	
	1/4	KQ2L03-35S	14.29				25.5	25			18	
3/16	10-32 UNF	KQ2L05-32	11.11	11.4	10	19.5	20	22	16.5	3.5	5	
	1/8	KQ2L05-34S	14.29				21.6	24			10	
	1/4	KQ2L05-35S	14.29				26	26			19	
1/4	10-32 UNF	KQ2L07-32	7	12	-	16.1	15.1	18.1	13.6	2.3	3.2	
	1/8	KQ2L07-34S	11.11	13.2	10	20.5	22.6	26	17	4.6	10	
	1/4	KQ2L07-35S	14.29				27	28			20	
3/8	KQ2L07-36S	17.46	28.4				30	32				
5/16	1/8	KQ2L09-34S	12.7	15.2	12	23.5	23.6	28	18.5	6	12	
	1/4	KQ2L09-35S	14.29				28	30			20	
	3/8	KQ2L09-36S	17.46				29.4	31.5			28	
3/8	1/8	KQ2L11-34S	11.11	17.9	17	25.5	25.6	31.5	21	7	16	
	1/4	KQ2L11-35S	14.29				29	32.5			23	
	3/8	KQ2L11-36S	17.46				30.4	34			33	
	1/2	KQ2L11-37S	22.23				34.6	36.5			59	
1/2	1/4	KQ2L13-35S	17.46	21.7	17	28	31	36.5	22	9.6	28	
	3/8	KQ2L13-36S	22.23				32.4	38.5			36	
	1/2	KQ2L13-37S	22.23				36.6	40			62	

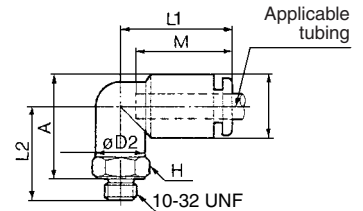
* Reference dimensions after NPT thread installation.
Note) $\phi D1$: Max. diameter



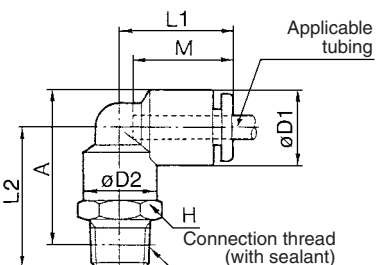
01-32
KQ2L03-32
07-32



<KQ2L05-32>



<NPT>



Series KQ2

45° Male Elbow: KQ2K

<10-32 UNF>

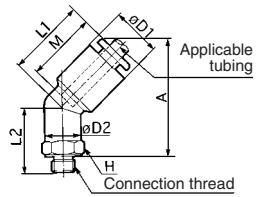


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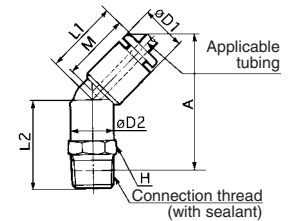


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2K01-32	8	9.6	8	16.5	15	25.5	15.5	2.3	4
	1/8	KQ2K01-34S	11.11		10	16.5	21.6	33	15.5	2.5	9
5/32	10-32 UNF	KQ2K03-32	8	10.4	8	17	14.5	26	16	2.3	4
	1/8	KQ2K03-34S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

<10-32 UNF>



<NPT>



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

Universal Male Elbow: KQ2V

<10-32 UNF>

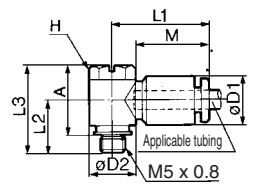


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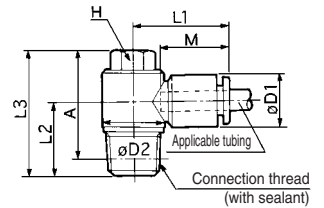


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Min. port size	Mass (g)									
1/8	10-32 UNF	KQ2V01-32	8	8.4	9.8	17.2	11	18.5	15	12.7	2.3	5									
	1/8	KQ2V01-34S		9.6	13.4	21.5	13.6	25.6	22.5	15.5	2.5	14									
5/32	10-32 UNF	KQ2V03-32	8	10.4	9.8	20.5	11	18.5	15	16	2.3	6									
	1/8	KQ2V03-34S			13.4	22	13.6	25.6	22.5	16.5	2.8	14									
3/16	1/8	KQ2V05-34S	8	11.4	13.4	23	13.6	25.6	22.5	16.5	3.5	15									
	10-32 UNF	KQ2V07-32			13.4	24	12	24	20.5	2.3	13										
1/4	1/8	KQ2V07-34S	8	13.2	15.3	23.5	18.5	32	26.5	17	4.6	15									
	1/4	KQ2V07-35S										13.6	25.6	22.5	15						
	1/8	KQ2V09-34S										11.11	17.6	28.5	14.6	27.6	24.5	18.5	6	24	
5/16	1/4	KQ2V09-35S	12.7	15.2	20.6	27.5	19.4	35.4	30	21	7	30									
	3/8	KQ2V09-36S										17.46	19.4	35.4	30	21	7	46			
	1/4	KQ2V11-35S										12.7	17.9	20.6	30.5	19	35	29.5	18.5	6	40
3/8	3/8	KQ2V11-36S	12.7	17.9	20.6	30.5	19.4	35.4	30	21	7	48									
	1/2	KQ2V13-36S										17.46	21.7	27	35.5	20.4	34.9	30	22	9	68
	1/2	KQ2V13-37S										21.7	27	35.5	23.6	38.1	31	22	9	85	

<10-32 UNF>



<NPT>



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

Hexagon Socket Head Universal Male Elbow: KQ2VS

<10-32 UNF>

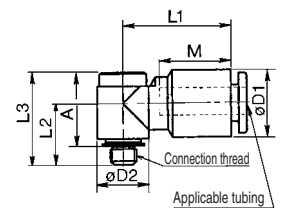


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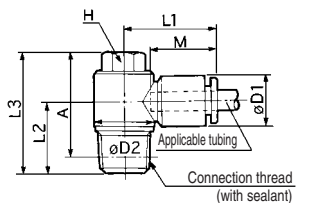


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) øD1	øD2	L1	L2	L3	A*	M	Min. port size	Mass (g)									
1/8	10-32 UNF	KQ2VS01-32	4	8.4	9.8	17.2	10.9	18.5	15	12.7	2.3	5									
	1/8	KQ2VS01-34S	6.35	9.6	13.4	21.5	13.6	25.6	22.5	15.5	2.5	14									
5/32	10-32 UNF	KQ2VS03-32	4	10.4	9.8	20.5	11	18.5	15	16	2.3	6									
	1/8	KQ2VS03-34S	6.35		13.4	22	13.6	25.6	22.5	16.5	2.8	14									
3/16	1/8	KQ2VS05-34S	8	11.4	13.4	23	13.6	25.6	22.5	16.5	3.5	15									
	10-32 UNF	KQ2VS07-32			13.4	24	12	24	19	2.3	13										
1/4	1/8	KQ2VS07-34S	6.35	13.2	15.3	23.5	18.5	28	22.5	17	4.6	15									
	1/4	KQ2VS07-35S										13.6	25.6	22.5	15						
	1/8	KQ2VS09-34S										11.11	17.6	28.5	14.6	26.1	23	18.5	6	21	
5/16	1/4	KQ2VS09-35S	12.7	15.2	20.6	27.5	19.4	31.4	26	21	7	27									
	3/8	KQ2VS09-36S										17.46	19.4	31.4	26	21	7	33			
	1/4	KQ2VS11-35S										12.7	17.9	20.6	31	19	31	25.5	18.5	6	39
3/8	3/8	KQ2VS11-36S	12.7	17.9	20.6	31	19.4	31.4	26	21	7	42									
	1/2	KQ2VS13-36S										17.46	21.7	27	34.5	20.4	33.4	28.5	22	9	63
	1/2	KQ2VS13-37S										21.7	27	34.5	23.6	36.6	29.5	22	9	81	

<10-32 UNF>



<NPT>



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

Universal Female Elbow: KQ2VF

<10-32 UNF>



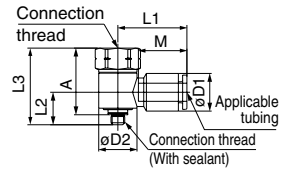
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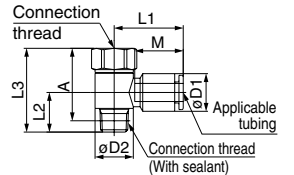
Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VF01-32	8	8.4	9.8	17.2	10	20	16.5	12.7	2.3	5
	1/8	KQ2VF01-34S	14.29	9.6	13.4	21.5	13.1	28.6	25.5	15.5	2.5	18
5/32	10-32 UNF	KQ2VF03-32	8	10.4	9.8	20.5	11	20	16	16	2.5	6
	1/8	KQ2VF03-34S	14.29	10.4	13.4	22	14.6	28.6	25.5	16	2.8	18
3/16	10-32 UNF	KQ2VF05-34S	14.29	11.4	13.4	23	13.1	28.6	25.5	16.5	3.5	19
	1/8	KQ2VF07-34S	14.29	13.2	13.4	24	11.5	27	23.5	17	2.3	16
1/4	10-32 UNF	KQ2VF07-32	8	13.2	13.4	24	13.1	28.6	25.5	17	4.6	19
	1/4	KQ2VF07-35S	17.46	13.2	17.6	25	17	38	32.5	17	4.6	37
5/16	1/8	KQ2VF09-34S	17.46	15.2	17.6	28.5	16.1	30.1	27	18.5	6	30
	1/4	KQ2VF09-35S	17.46	15.2	19.5	38	32.5	39	39	18.5	6	38
	3/8	KQ2VF09-36S	22.23	17.9	25.2	29.5	19.4	43.9	39	21	7	67
3/8	1/4	KQ2VF11-35S	22.23	17.9	20.6	31	17	40.5	35	21	7	60
	3/8	KQ2VF11-36S	22.23	17.9	25.2	31.5	18.4	43.9	39	21	7	70
1/2	3/8	KQ2VF13-36S	22.23	21.7	19.9	40.9	39	39	39	22	9	85
	1/2	KQ2VF13-37S	25.4	21.7	27	35.5	23.1	49.1	41.5	22	9	104

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

<10-32 UNF>



<NPT>



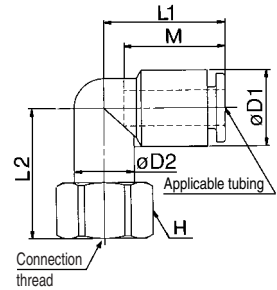
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Female Elbow: KQ2LF



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	M	Min. port size	Mass (g)
1/8	1/8	KQ2LF01-34	14.29	9.6	10	17.5	20	15.5	2.5	12
	1/4	KQ2LF01-35	17.46				23.5			20
5/32	1/8	KQ2LF03-34	14.29	10.4	10	18	20.5	16	3	12
	1/4	KQ2LF03-35	17.46				24			20
1/4	1/8	KQ2LF07-34	14.29	13.2	10	20.5	22	17	4.6	13
	1/4	KQ2LF07-35	17.46				25.5			21
	3/8	KQ2LF07-36	22.23				26			33
3/8	1/4	KQ2LF11-35	17.46	17.9	17	25.5	27.5	21	7	28
	3/8	KQ2LF11-36	22.23				28			40
	1/2	KQ2LF11-37	23.81				32			45
1/2	3/8	KQ2LF13-36	22.23	21.7	17	28	30	22	9.6	44
	1/2	KQ2LF13-37	23.81				34			49

Note) $\phi D1$: Max. diameter



Double Universal Male Elbow: KQ2VD

<10-32 UNF>



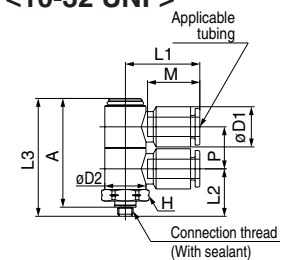
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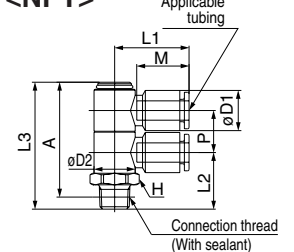
Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Min. port size	Mass (g)		
1/8	10-32 UNF	KQ2VD01-32	14.29	9.6	13.4	22	15.5	38.5	35	15.5	13.4	2.3	24		
	1/8	KQ2VD01-34S	14.29				17.1						40.1	37	2.5
5/32	10-32 UNF	KQ2VD03-32	14.29	10.4	13.4	22	15.5	38.5	35	16	13.4	2.3	24		
	1/8	KQ2VD03-34S	14.29				17.6						40.1	37	3
3/16	10-32 UNF	KQ2VD05-34S	14.29	11.4	13.4	23	17.1	40.1	37	16.5	13.4	3.5	24		
	1/8	KQ2VD07-32	8				15.5						39	35.5	26
1/4	10-32 UNF	KQ2VD07-34S	14.29	13.2	13.4	24	17.6	40.6	37.5	17	13.8	4.6	25		
	1/4	KQ2VD07-35S	17.46				22.1						44	38.5	31
	3/8	KQ2VD09-36S	22.23				22.4						45.4	40.5	44
5/16	1/8	KQ2VD09-35S	17.46	19	17.6	28.5	23.1	50.1	45	18.5	15.9	6	49		
	1/4	KQ2VD09-36S	22.23				24.5						51.5	45.5	57
	3/8	KQ2VD09-37S	22.23				27.4						54.4	47.5	81
3/8	1/4	KQ2VD11-35S	17.46	17.9	20.6	31	25.5	57.5	52	21	19.2	7	76		
	3/8	KQ2VD11-36S	22.23				25.9						57.9	52.5	77
	1/2	KQ2VD11-37S	22.23				29.1						61.1	54	94
1/2	3/8	KQ2VD13-36S	22.23	21.7	27	35.5	30.9	65.4	60.5	22	22.3	9.6	142		
	1/2	KQ2VD13-37S	25.4				34.1						68.6	61.5	159

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

<10-32 UNF>



<NPT>



Series KQ2

Triple Universal Male Elbow: KQ2VT

<10-32 UNF>

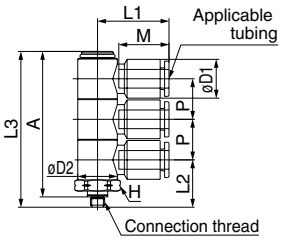


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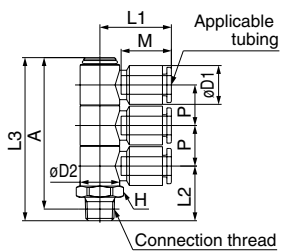


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2VT01-32	14.29	9.6	13.4	22	15.5	52	48.5	15.5	13.4	2.3	32
	1/8	KQ2VT01-34S					17.1	53.6	50.5				
5/32	10-32 UNF	KQ2VT03-32	14.29	10.4	13.4	22	15.5	52	48.5	16	13.4	2.3	32
	1/8	KQ2VT03-34S					17.6	53.6	50.5				
3/16	1/8	KQ2VT05-34S	14.29	11.4	13.4	23	17.1	53.6	50.5	16.5	13.4	3.5	31
	10-32 UNF	KQ2VT07-32					15.5	53	49.5				
1/4	1/8	KQ2VT07-34S	14.29	13.2	13.4	24	17.6	54.6	51.5	17	13.8	4.6	33
	1/4	KQ2VT07-35S					22.1	58	52.5				
	3/8	KQ2VT07-36S					22.4	59.4	54				
	1/2	KQ2VT07-37S					27.4	70.4	63.5				
5/16	1/4	KQ2VT09-35S	19	15.2	17.6	28.5	23.1	66.1	61	18.5	15.9	6	59
	3/8	KQ2VT09-36S					24.5	67.5	61.5				
	1/2	KQ2VT09-37S					27.4	70.4	63.5				
	10-32 UNF	KQ2VT11-35S					25.5	77	71.5				
3/8	1/4	KQ2VT11-36S	22.23	17.9	20.6	31	25.9	77.4	72	21	19.2	7	98
	3/8	KQ2VT11-37S					29.1	80.6	73				
	1/2	KQ2VT11-37S					29.1	80.6	73				
	10-32 UNF	KQ2VT13-36S					30.9	87.9	83				
1/2	3/8	KQ2VT13-36S	25.4	21.7	27	35.5	34.1	91.1	84	22	22.3	9.6	203
	1/2	KQ2VT13-37S					34.1	91.1	84				

<10-32 UNF>



<NPT>



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

Branch Universal Male Elbow: KQ2Z

<10-32 UNF>

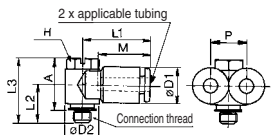


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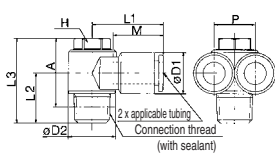


Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Min. port size	Mass (g)		
1/8	10-32 UNF	KQ2Z01-32	8	8.4	9.8	16	11.2	18.5	15	12.7	8.4	2.3	6		
	1/8	KQ2Z01-34S												9.6	13.4
5/32	10-32 UNF	KQ2Z03-32	8	10.4	9.8	19.5	11	18.5	15	16	10.4	2.3	8		
	1/8	KQ2Z03-34S												13.4	21
3/16	1/8	KQ2Z05-34S	8	11.4	13.4	21.5	13.6	25.6	22.5	16.5	11.4	3.5	17		
	10-32 UNF	KQ2Z07-32												12	24
1/4	1/8	KQ2Z07-34S	8	13.2	13.4	21.5	13.6	25.6	22.5	17	13.2	4.6	17		
	1/4	KQ2Z07-35S					18	31	25.5						
5/16	1/8	KQ2Z09-34S	11.11	15.2	17.6	26	14.6	27.6	24.5	18.5	15.2	6	27		
	1/4	KQ2Z09-35S					18	31	25.5						
	3/8	KQ2Z09-36S					20.6	27	19.4					35.4	30
	1/2	KQ2Z09-37S					27.4	70.4	63.5						
3/8	1/4	KQ2Z11-35S	12.7	17.9	20.6	28.5	19	35	29.5	21	17.9	7	46		
	3/8	KQ2Z11-36S					19.4	35.4	30						
	1/2	KQ2Z11-37S					27.4	70.4	63.5						
	10-32 UNF	KQ2Z13-36S					20.4	34.9	30						
1/2	3/8	KQ2Z13-36S	17.46	21.7	27	33	23.6	38.1	31	22	21.7	9	76		
	1/2	KQ2Z13-37S					23.6	38.1	31						

<10-32 UNF>



<NPT>

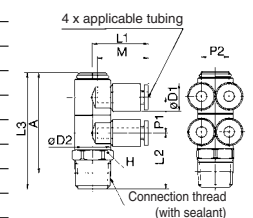


* Reference dimensions after NPT thread installation.
Note) $\phi D1$: Max. diameter

Double Branch Universal Male Elbow: KQ2ZD



Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P1	P2	Min. port size	Mass (g)
1/8	1/8	KQ2ZD01-34S	14.29	9.6	13.4	20.5	17.1	40.1	37	15.5	13.4	9.6	2.5	26
5/32	1/8	KQ2ZD03-34S	14.29	10.4	13.4	21	17.6	40.1	37	16	13.4	10.4	3	29
	1/8	KQ2ZD05-34S												
1/4	1/8	KQ2ZD07-34S	14.29	13.2	13.4	21.5	17.6	40.6	37.5	17	13.8	13.2	4.6	30
	1/4	KQ2ZD07-35S					22.1	44	38.5					
	3/8	KQ2ZD07-36S					22.4	45.4	40.5					
	1/2	KQ2ZD09-35S					23.1	50.1	45					
5/16	3/8	KQ2ZD09-36S	19	15.2	17.6	26	24.5	51.5	45.5	18.5	15.9	15.2	6	56
	1/2	KQ2ZD09-37S					27.4	54.4	47.5					
	10-32 UNF	KQ2ZD11-35S					25.5	57.5	52					
	3/8	KQ2ZD11-36S					25.9	57.9	52.5					
3/8	1/4	KQ2ZD11-37S	22.23	17.9	20.6	28.5	29.1	61.1	54	21	19.2	17.9	7	88
	3/8	KQ2ZD11-36S					29.1	61.1	54					
	1/2	KQ2ZD11-37S					29.1	61.1	54					
	10-32 UNF	KQ2ZD13-36S					30.9	65.4	60.5					
1/2	3/8	KQ2ZD13-36S	25.4	21.7	27	33	34.1	68.6	61.5	22	22.3	21.7	9.6	158
	1/2	KQ2ZD13-37S					34.1	68.6	61.5					

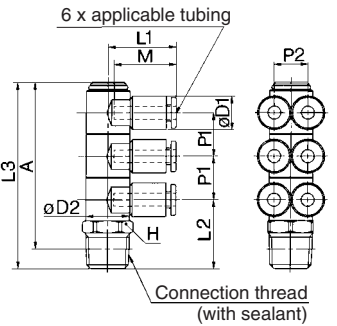


* Reference dimensions after NPT thread installation.
Note) $\phi D1$: Max. diameter

Triple Branch Universal Male Elbow: KQ2ZT



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



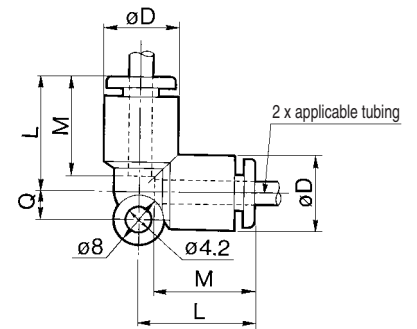
* Reference dimensions after NPT thread installation.
Note) $\phi D1$: Max. diameter

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

Union Elbow: KQ2L



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

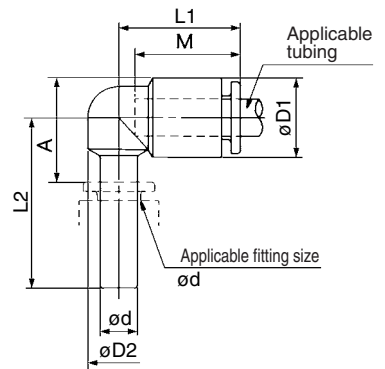


Note) ϕD : Max. diameter

Plug-in Elbow: KQ2L



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

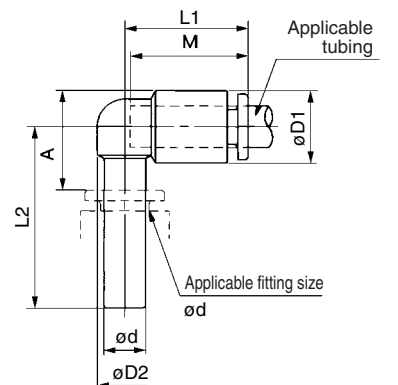


Note) $\phi D1$: Max. diameter

Reducer Elbow: KQ2L



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

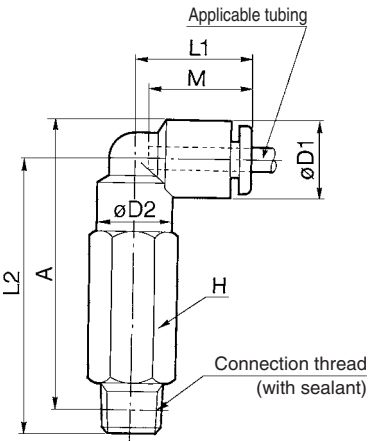


Note) $\phi D1$: Max. diameter

Series KQ2

Extended Male Elbow: KQ2W

Applicable tubing O.D. (inch)	Connection thread NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	A*	M	Min. port size	Mass (g)
1/8	1/8	KQ2W01-34S	11.11	9.6	10	17.5	36.1	38	15.5	2.5	19
	1/4	KQ2W01-35S	14.29				42.5	42			41
5/32	1/8	KQ2W03-34S	11.11	10.4	10	18	36.6	38.5	16	3	19
	1/4	KQ2W03-35S	14.29				43	42.5			41
3/16	1/8	KQ2W05-34S	11.11	11.4	10	19.5	37.1	40	16.5	3.5	41
	1/4	KQ2W05-35S	14.29				43.5	43.5			19
1/4	1/8	KQ2W07-34S	11.11	13.2	10	20.5	39.6	43	17	4.6	20
	1/4	KQ2W07-35S	14.29				46	47			42
	3/8	KQ2W07-36S	17.46				47.4	49			69
5/16	1/8	KQ2W09-34S	12.7	15.2	12	23.5	42.6	47	18.5	6	30
	1/4	KQ2W09-35S	14.29				49	51			47
	3/8	KQ2W09-36S	17.46				50.4	53			74
3/8	1/4	KQ2W11-35S	17.46	17.9	17	25.5	55.5	59	21	7	69
	3/8	KQ2W11-36S	17.46				56.9	61			76
	1/2	KQ2W11-37S	22.23				63.6	65.5			147
1/2	1/4	KQ2W13-35S	17.46	21.7	17	28	57.5	63	22	9.6	72
	3/8	KQ2W13-36S	17.46				58.9	64.5			78
	1/2	KQ2W13-37S	22.23				65.6	69			149



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



Male Branch Tee: KQ2T

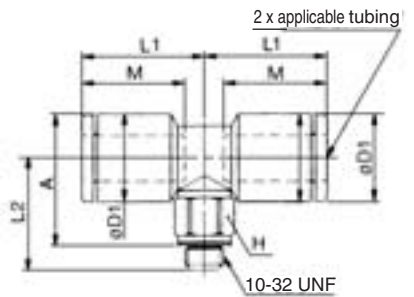
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Applicable tubing O.D. (inch)	Connection thread UNF NPT	Model	H (Width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Min. port size	Mass (g)
1/8	10-32 UNF	KQ2T01-32	7	8.4	-	15.3	13.2	14.4	12.7	2.3	3.2
	1/16	KQ2T01-33S	11.11	9.6	10	17.5	21.5	22.5*	15.5	2.5	10
	1/8	KQ2T01-34S					20.6				20
	1/4	KQ2T01-35S	14.29				25	24.5*			20
5/32	10-32 UNF	KQ2T03-32	7	9.3	-	15.6	13.7	15.4	12.7	2.3	3.5
	1/16	KQ2T03-33S	11.11	10.4	10	18	22	23*	16	3	10
	1/8	KQ2T03-34S					21.1				11
	1/4	KQ2T03-35S	14.29				25.5	25*			20
3/16	1/8	KQ2T05-34S	11.11	11.4	10	19.5	21.6	24*	16.5	3.5	12
	1/4	KQ2T05-35S	14.29				26	26*			21
1/4	10-32 UNF	KQ2T07-32	7	12	-	16.1	15.1	18.1	13.6	2.3	4.4
	1/8	KQ2T07-34S	11.11	13.2	10	20.5	22.6	26*	17	4.6	11
	1/4	KQ2T07-35S	14.29				27	28*			21
	3/8	KQ2T07-36S	17.46				28.4	30*			34
5/16	KQ2T09-34S	12.7									23.6
5/16	1/4	KQ2T09-35S	14.29	15.2	12	23	28	30*	18.5	6	23
	3/8	KQ2T09-36S	17.46				29.4	31.5*			35
	1/2	KQ2T11-34S									
3/8	1/4	KQ2T11-35S	17.46	17.9	17	25.5	29	32.5*	21	7	29
	3/8	KQ2T11-36S					30.4	34.5*			38
	1/2	KQ2T11-37S	22.23				34.6	36.5*	64		
	1/2	KQ2T13-35S	17.46				21.7	17	28	31	36.5*
3/8	KQ2T13-36S	17.46	32.4	38.5*	43						
1/2	KQ2T13-37S	22.23	36.6	40*	69						

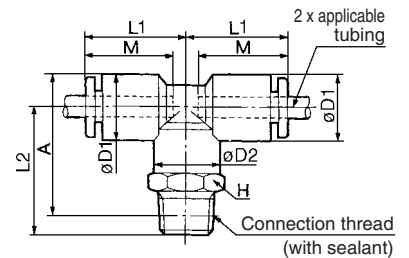
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<10-32 UNF>



<NPT>

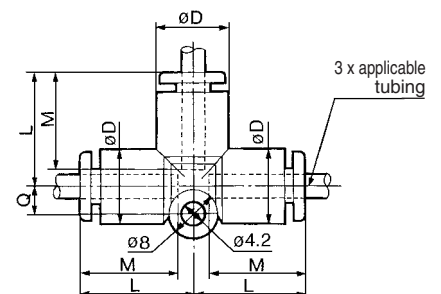


* Reference dimensions after NPT thread installation.
Note) $\phi D1$: Max. diameter



Union Tee: KQ2T

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



Note) ϕD : Max. diameter

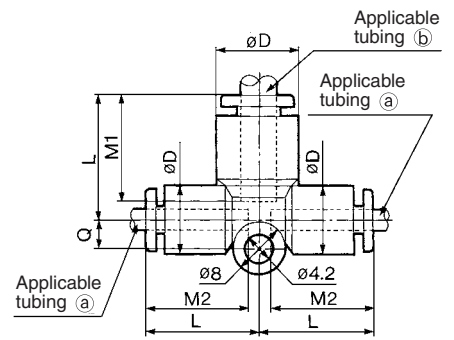


Different Diameter Tee: KQ2T



Applicable tubing O.D. (inch)		Model	Note) øD	L	Q	M1	M2	Min. port size	Mass (g)
Ⓐ	Ⓑ								
1/8	5/32	KQ2T01-03	10.4	18	4.5	16	15.5	2.5	5
	1/4	KQ2T01-07	13.2	20.5	5.3	17			8
5/32	3/16	KQ2T03-05	11.4	19.5	4.8	16.5	16	3	6
	1/4	KQ2T03-07	13.2	20.5	5.3	17			8
3/16	1/4	KQ2T05-07	13.2	20.5	5.3	17	16.5	3.5	8
1/4	5/16	KQ2T07-09	15.2	23	6	18.5	17	4.6	11
	3/8	KQ2T07-11	17.9	26	6.6	21			17
5/16	3/8	KQ2T09-11	17.9	26	6.6	21	18.5	6	17
	1/2	KQ2T09-13	21.7	29	7.8	22			26
3/8	1/2	KQ2T11-13	21.7	29	7.8	22	21	7	28

Note) øD: Max. diameter



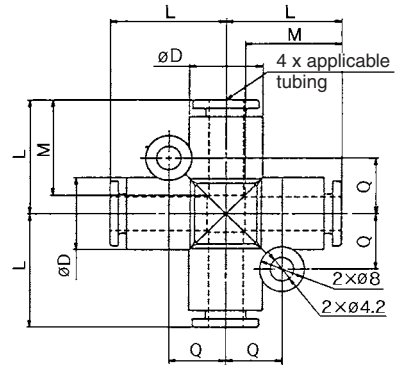
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Cross: KQ2TW



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

Note) øD: Max. diameter

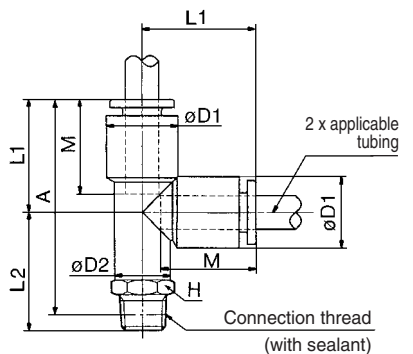


Male Run Tee: KQ2Y



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

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



Series KQ2

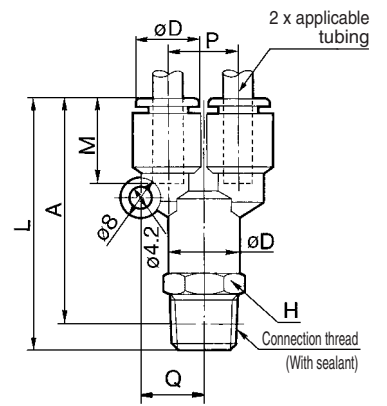
Branch "Y": KQ2U



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

* Reference dimensions after NPT thread installation.

Note) ϕD : Max. diameter

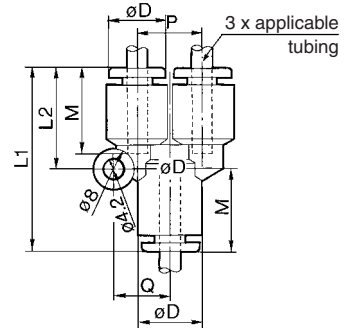


Union "Y": KQ2U



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

Note) ϕD : Max. diameter

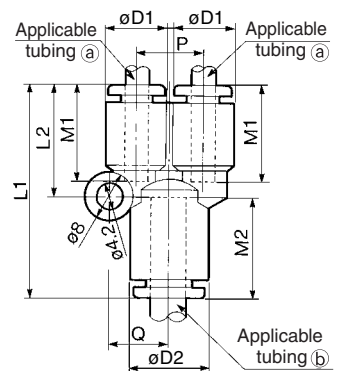


Different diameter union "Y": KQ2U



Applicable tubing O.D. (inch)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	P	Q	M1	M2	Min. port size	Mass (g)
1/8	5/32	KQ2U01-03	9.6	10.4	33.5	17.5	9.6	9	15.5	16	2.5	5
	1/4	KQ2U01-07			13.2	38	21.5	13.2		12		17
5/32	3/16	KQ2U03-05	10.4	11.4	36.5	20.5	11.4	10.6	16	16.5	3	8
	1/4	KQ2U03-07			13.2	38	21.5	13.2		12		17
3/16	1/4	KQ2U05-07	11.4	13.2	38	21.5	13.2	12	16.5	17	3.5	9
	5/16	KQ2U07-09			15.2	42.5	24.5	15.2		13.7		17
1/4	3/8	KQ2U07-11	13.2	17.9	47	27.5	17.9	15.6	17	21	4.6	23
	5/16	KQ2U09-11			17.9	47	27.5	17.9		15.6		18.5
5/16	1/2	KQ2U09-13	15.2	21.7	51	30	21.7	18.8	18.5	22	6	34
	3/8	KQ2U11-13			17.9	21.7	51.5	30.5		21.7		18.8

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

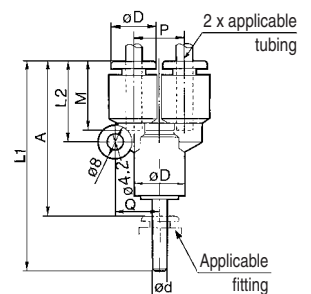


Plug-in "Y": KQ2U



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

Note) ϕD : Max. diameter

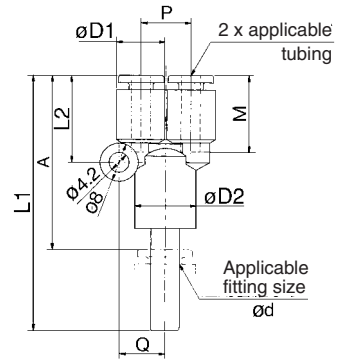


Different Diameter Plug-in “Y”: KQ2X



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

Note) ϕD : Max. diameter

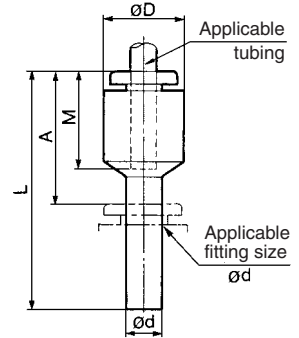


Plug-in Reducer: KQ2R



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

Note) ϕD : Max. diameter

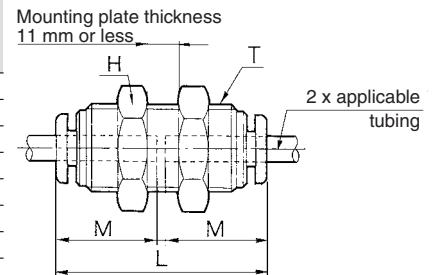


- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Bulkhead Union: KQ2E



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

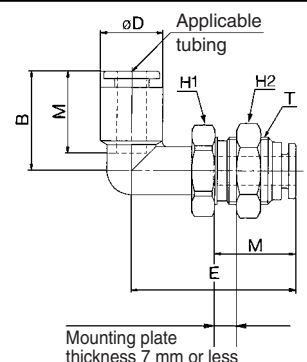


Bulkhead Male Elbow: KQ2LE



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

Note) ϕD : Max. diameter

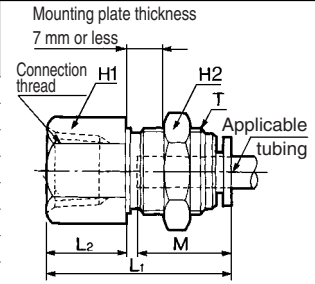


Series KQ2

Bulkhead Connector: KQ2E



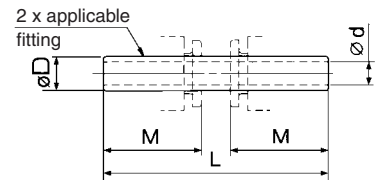
Applicable tubing O.D. (inch)	Connection thread NPT	Model	Connection thread (UNF)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	M	Min. port size	Mounting hole	Mass (g)
1/8	1/4	KQ2E01-35	1/2-20	17.46	17.46	31	15	15.5	2.5	13.5	36
5/32	1/4	KQ2E03-35	1/2-20	17.46	17.46	31	15	16	3	13.5	36
3/16	1/8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



Nipple: KQ2N



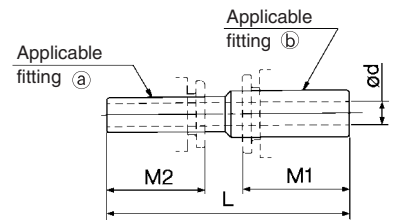
Applicable fitting ϕD	Model	L	M	ϕd	Mass (g)
1/8	KQ2N01-99	36	15.5	2.2	0.2
3/16	KQ2N05-99	38	16.5	3.5	0.4
1/4	KQ2N07-99	39	17	4.6	1
3/8	KQ2N11-99	49	21	7.5	10
1/2	KQ2N13-99	51	22	10	15



Reducer Nipple: KQ2N



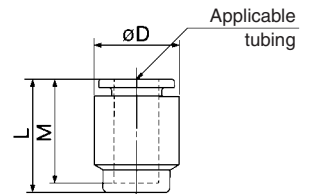
Applicable fitting O.D. (inch)		Model	L	M1	M2	ϕd	Mass (g)
Ⓐ	Ⓑ						
1/8	5/32	KQ2N01-03	36.5	16	15.5	2.2	0.2
	3/16	KQ2N01-05	37	16.5			0.4
5/32	3/16	KQ2N03-05	37.5	16.5	16	2.5	0.4
	1/4	KQ2N03-07	38	17			0.6
3/16	1/4	KQ2N05-07	38.5	17	16.5	3.5	0.6
	5/16	KQ2N05-09	41	18.5			1
1/4	5/16	KQ2N07-09	41.5	18.5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



Tube Cap: KQ2C



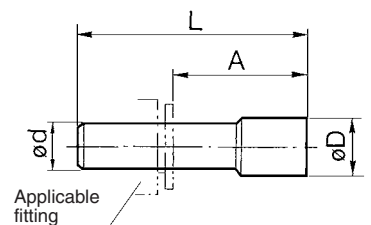
Applicable tubing O.D. (inch)	Model	$\phi D1$	L	M	Mass (g)
5/32	KQ2C03-00	10.4	17	16	1
1/4	KQ2C07-00	13.2	18	17	2
5/16	KQ2C09-00	15.2	20.5	18.5	3
3/8	KQ2C11-00	17.9	22.5	21	6



Plug: KQ2P, KQP



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



Note) KQ2P and KQP: Orange



Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

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

 K

 M

 H

 KK

 D

 MS

 LQ

 MQR

 T

2 Other Specifications

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

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

Spare Parts

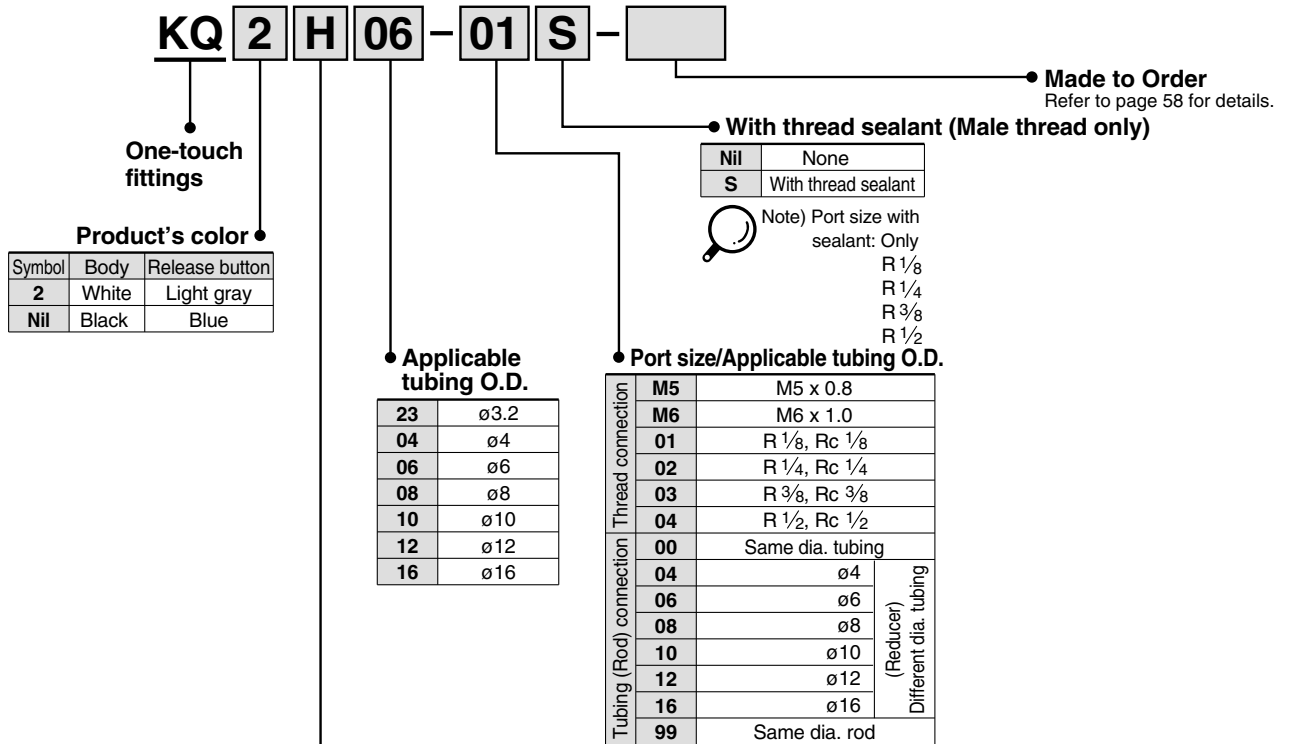
Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-10/32G	10-32 UNF	Stainless steel 304, NBR	—
Pipe nut	KQ01-P01	—	—	KQ2E01-00, KQ2E03-00, KQ2E01-35 KQ2E03-35, KQ2LF01-00, KQ2LE03-00
	KQ05-P01	—	—	KQ2E05-00, KQ2E07-00, KQ2E05-34 KQ2E07-35, KQ2LF05-00, KQ2LE07-00
	KQ09-P01	—	—	KQ2E09-00,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

One-touch Fittings

Series KQ2

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

How to Order



Model

H	Male connector	T	Male branch tee
	Straight union		Union tee
	Different diameter straight		Different diameter tee*
S	Hex. socket head male connector	TW	Cross*
F	Female connector	TX	Different diameter cross*
L	Male elbow	TY	Different diameter cross*
	Union elbow	Y	Male run tee
	Plug-in elbow	D	Male delta union
Reducer elbow	Delta union		
LU	Male branch connector	U	Branch "Y"
	Branch union elbow		Union "Y"
K	45° male elbow		Different dia. union "Y"
V	Universal male elbow		Plug-in "Y"
VS	Hexagon socket head universal male elbow		Delta branch
VF	Universal female elbow	UD	Different dia. double union "Y"
LF	Female elbow	XD	Double plug-in "Y"
VD	Double universal male elbow	X	Different diameter plug-in "Y"
VT	Triple universal male elbow	R	Plug-in reducer
Z	Branch universal male elbow		Bulkhead union
ZF	Branch universal female elbow	E	Bulkhead connector
ZD	Double branch universal male elbow		Bulkhead male elbow
ZT	Triple branch universal male elbow	LE	
	Extended plug-in elbow		
W	Extended male elbow		

Accessory

Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Adaptor
KQ2C	Tube cap
KQ2C	Color cap
KQ2P	Plug (White)
KQP	Plug (Blue)

Use the below part number to order the gasket for M5 and M6 threads.

Gasket for M5 thread: M-5G2

Gasket for M6 thread: M-6G

* Available only for white color body.

Series KQ2: White body
Series KQ : Black body

Guide

Collet

Chuck

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

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

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Connection thread

M, R, Rc

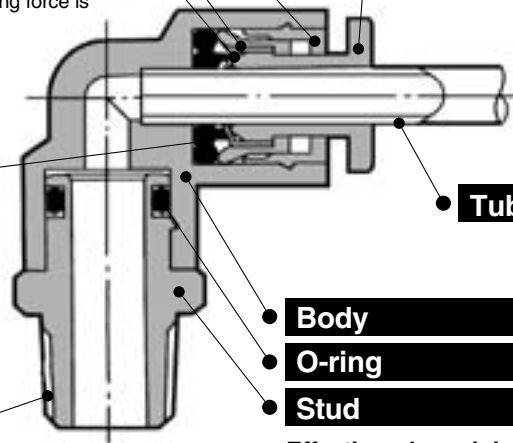
Release button

Series KQ2: Light gray

Series KQ : Blue

Light force for removal

When the fitting is removed from the tube, the chuck and collet are released, thus preventing them from biting into the tube excessively.



Tube

Body

O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate. (To the degree for positioning)

PAT.

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

One-touch IN/OUT connection.
Possible to use in vacuum
to **-100 kPa**



Applicable Tubing

Tube material	FEP, PFA, Nylon, Soft nylon ⁽¹⁾ , Polyurethane
Tube O.D.	ø3.2, ø4, ø6, ø8, ø10, ø12, ø16

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

Product's Color

Series	Body	Release button
Series KQ2	White	Light gray
Series KQ	Black	Blue

Specifications

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



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

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

Principal Parts Material

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



Made to Order
(Refer to page 58 for details.)

Series KQ2

Model

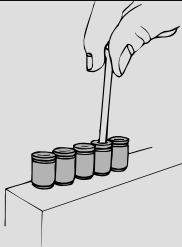
Hex. socket head male connector

KQ2S

P. 42



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



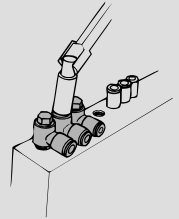
Universal male elbow

KQ2V

P. 45



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



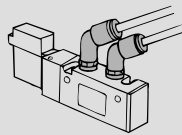
45° male elbow

KQ2K

P. 44



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



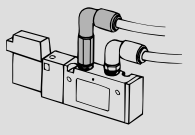
Extended male elbow

KQ2W

P. 50



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



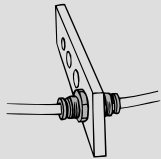
Bulkhead union

KQ2E

P. 56



Use to connect tubes through a panel.



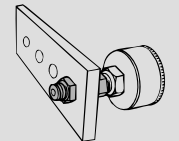
Bulkhead connector

KQ2E

P. 56



Use to connect male thread and tube through a panel.



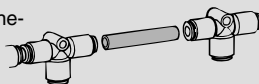
Nipple

KQ2N

P. 57



Use to connect One-touch fittings.



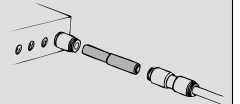
Reducer nipple

KQ2N

P. 57



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



Male connector

KQ2H

P. 42



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

Male elbow

KQ2L

P. 43



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

Male branch tee

KQ2T

P. 50



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

Female connector

KQ2F

P. 42



Use to pipe from male thread such as pressure gauge.

Union elbow

KQ2L

P. 48



Use to connect tubes at right angles.

Union tee

KQ2T

P. 51



Use to connect tubes in both 90° directions.

Straight union

KQ2H

P. 43



Use to connect tubes in the same direction.

Plug-in elbow

KQ2L

P. 49



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

Different diameter tee

KQ2T

P. 51



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

Different diameter straight

KQ2H

P. 43



Use to connect different sized tubes.

Reducer elbow

KQ2L

P. 49



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

Different diameter tee

KQ2T

P. 51



Use to branch line with size down in both side 90° direction.

Cross

KQ2TW

P. 51



Use to four-branch line.

Different diameter cross

KQ2TX

P. 51



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

Different diameter cross

KQ2TY

P. 52



Use to branch line with size down in three directions.

Hexagon socket head universal male elbow

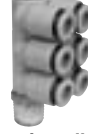
KQ2VS P. 45



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

Triple branch universal male elbow

KQ2ZT P. 48



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

Different dia. union "Y"

KQ2U P. 54



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

Male branch connector

KQ2LU P. 44



Use to branch piping at right angles to female thread.

Branch union elbow

KQ2LU P. 49



Use to branch line at right angles.

Plug-in "Y"

KQ2U P. 55



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

Universal female elbow

KQ2VF P. 46



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

Extended plug-in elbow

KQ2W P. 49



When the elbow extends over a standard elbow for ease of connection/disconnection of tube.

Branch "Y"

KQ2U P. 53



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

Female elbow

KQ2LF P. 46



Use to pipe at right angles to male thread.

Male delta union

KQ2D P. 53



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

Plug-in reducer

KQ2R P. 56



Use to change size of One-touch fittings.

Double universal male elbow

KQ2VD P. 46



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

Delta union

KQ2D P. 53



Use to branch in tripple 90° direction.

Bulkhead male elbow

KQ2LE P. 56



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

Triple universal male elbow

KQ2VT P. 47



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

Delta branch

KQ2UD P. 54



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

Adaptor

KQ2N P. 57



Use to connect fitting and R female thread.

Branch universal male elbow

KQ2Z P. 47



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

Different dia. double union "Y"

KQ2UD P. 54



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

Tube cap

KQ2C P. 57



Use to plug unused tube.

Branch universal female elbow

KQ2ZF P. 47



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

Different diameter plug-in "Y"

KQ2X P. 55



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

Color cap

KQ2C P. 57



Mounted on the release button corresponding to its applications. Distinguished by color.

Double branch universal male elbow

KQ2ZD P. 48



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

Double plug-in "Y"

KQ2XD P. 55



Use to four-branch line from One-touch fitting.

Plug

KQ2P, KQP P. 57



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

Male run tee

KQ2Y P. 52



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

Union "Y"

KQ2U P. 54



Use to branch line in the same direction.

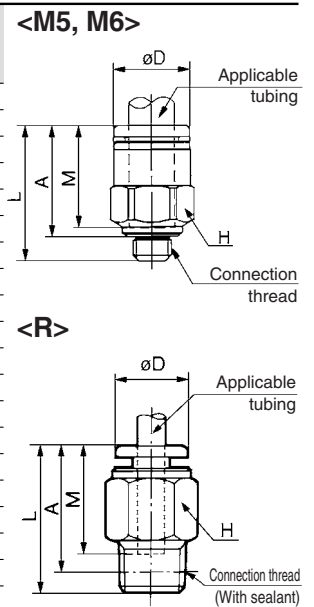
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Series KQ2

Male Connector: KQ2H

<M5, M6>

Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	$\phi D^{(1)}$	L	A*	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
								Nylon	Urethane	
3.2	M5 x 0.8	KQ2H23-M5	7	7	16.7	13.6	12.7	3	2.5	2.1
	1/8	KQ2H23-01S	10	-	21.1	18	15.5	3.4	2.9	9
	1/4	KQ2H23-02S	14	-	19	13.5				16
4	M5 x 0.8	KQ2H04-M5	8	-	17	13.9	12.7	4	4	2.4
	M6 x 1.0	KQ2H04-M6	8	8	18	-	16	5.6	4	2.5
	1/8	KQ2H04-01S	10	-	21.1	18				9
	1/4	KQ2H04-02S	14	-	19	13.5	16			
6	M5 x 0.8	KQ2H06-M5	10	10	17.8	14.7	13.5	4	4	3.3
	M6 x 1.0	KQ2H06-M6	10	-	19	14.9	17	13.1	10.4	3.4
	1/8	KQ2H06-01S	12	-	21.6	18.5				16
	1/4	KQ2H06-02S	14	-	22.5	17	14			
8	1/8	KQ2H08-01S	-	-	27.1	24	18.5	26.1	18.0	21
	1/4	KQ2H08-02S	14	-	26	20.5				19
	3/8	KQ2H08-03S	17	-	20.9	15.5				26
10	1/8	KQ2H10-01S	-	-	29.1	26	21	41.5	29.5	19
	1/4	KQ2H10-02S	17	-	33	27.5				30
	3/8	KQ2H10-03S	-	-	27.9	22.5				30
	1/2	KQ2H10-04S	22	-	26.1	19				53
12	1/4	KQ2H12-02S	19	-	34	28.5	22	58.3	46.1	42
	3/8	KQ2H12-03S	-	-	28.9	23.5				34
	1/2	KQ2H12-04S	22	-	29.1	22				51
16	3/8	KQ2H16-03S	-	25.7	38.4	33	25	81	(81)	61
	1/2	KQ2H16-04S	24	-	34.6	27.5				113



<R>



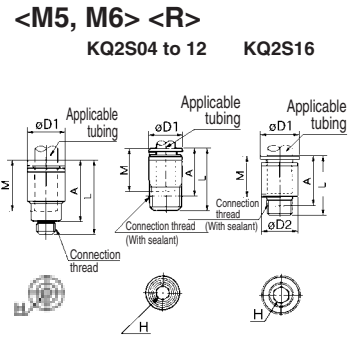
* Reference dimensions after R thread installation.

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

Hexagon Socket Head Male Connector: KQ2S

<M5, M6>

Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	$\phi D1^{(1)}$	$\phi D2$	L	A*	M	Effective area ⁽²⁾ (mm ²)		Mass (g)			
									Nylon	Urethane				
4	M5 x 0.8	KQ2S04-M5	2.5	8	-	18.7	15.6	12.7	4	4	2.7			
	M6 x 1.0	KQ2S04-M6	3	8	-	18.2	14.1	12.7	4	4	2.8			
	1/8	KQ2S04-01S	3	9.8	-	23	19				16	4.1	3.6	8
6	M5 x 0.8	KQ2S06-M5	2.5	10	-	19.5	16.4	13.5	4	4	3.3			
	M6 x 1.0	KQ2S06-M6	3	10	-	19.1	15	17	10.0	9.9	9			
	1/8	KQ2S06-01S	4	11.8	-	24	20				17	10.7	10.0	15
	1/4	KQ2S06-02S	4	13.8	-	24	18	17	10.7	10.0	15			
8	1/8	KQ2S08-01S	5	14	-	28	24	18.5	17.2	16.2	12			
	1/4	KQ2S08-02S	6	14	-	25.5	19.5				23.3	16.2	11	
	3/8	KQ2S08-03S	6	17	-	27.5	21				23.3	16.2	24	
10	1/8	KQ2S10-01S	5	17	-	30	26	21	17.2	16.2	18			
	1/4	KQ2S10-02S	8	17	-	27.5	21.5				21	39.0	26.6	12
	3/8	KQ2S10-03S	8	22	-	28	20				21	39.0	26.6	19
	1/2	KQ2S10-04S	8	22	-	28	20				21	39.0	26.6	35
12	1/4	KQ2S12-02S	8	19	-	34	28	22	46.0	44.5	23			
	3/8	KQ2S12-03S	10	19	-	29	22.5				22	60.0	44.5	18
	1/2	KQ2S12-04S	10	22	-	28	20				22	60.0	44.5	30
16	3/8	KQ2S16-03S	10	25.7	24	39	32.5	25	81	(81)	42			
	1/2	KQ2S16-04S	12	25.7	24	35	27				25	113	(96)	34



<R>

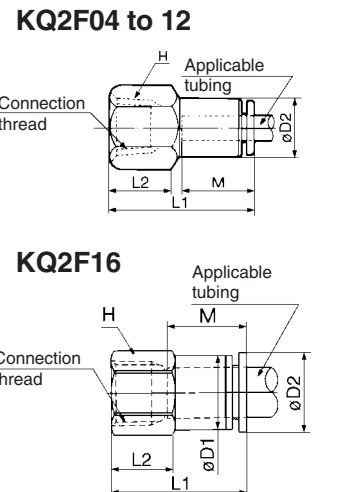


* Reference dimensions after R thread installation.

Note 1) $\phi D1$: Max. diameter
Note 2) (): Values for soft nylon.

Female Connector: KQ2F

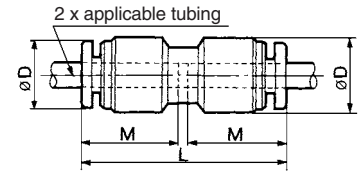
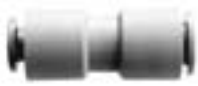
Applicable tubing O.D. (mm)	Connection thread Rc	Model	H (width across flats)	$\phi D1^{(1)}$	$\phi D2$	L1	L2	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
									Nylon	Urethane	
4	1/8	KQ2F04-01	14	-	10	27	11	16	5.6	4	15
	1/4	KQ2F04-02	17	-	31	14	23				
6	1/8	KQ2F06-01	14	-	12	27.5	11	17	13.1	10.4	15
	1/4	KQ2F06-02	17	-	31	13	22				
	3/8	KQ2F06-03	19	-	33.5	15	25				
8	1/8	KQ2F08-01	14	-	14	29	11	18.5	26.1	18.0	17
	1/4	KQ2F08-02	17	-	32.5	13	24				
	3/8	KQ2F08-03	19	-	33.5	14	24				
10	1/4	KQ2F10-02	17	-	17	34.5	14	21	41.5	29.5	27
	3/8	KQ2F10-03	19	-	36.5	15	30				
12	1/4	KQ2F12-02	19	-	19	35	14	22	58.3	46.1	36
	3/8	KQ2F12-03	24	-	37	14	31				
	1/2	KQ2F12-04	24	-	41	18	52				
16	3/8	KQ2F16-03	24	24	25.7	38	15	25	81	(81)	59
	1/2	KQ2F16-04	24	24	25.7	43	19				25



Note 1) $\phi D2$: Max. diameter
Note 2) (): Values for soft nylon

Straight Union: KQ2H

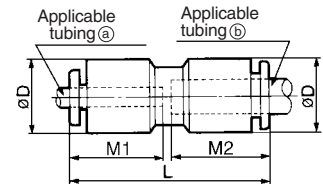
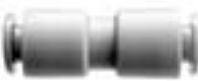
Applicable tubing O.D. (mm)	Model	øD ⁽¹⁾	L	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
					Nylon	Urethane	
3.2	KQ2H23-00	9.6	31.5	15.5	3.4	2.9	3
4	KQ2H04-00	10.4	32.5	16	5.6	4	3
6	KQ2H06-00	12.8	34.5	17	13.1	10.4	4
8	KQ2H08-00	15.2	38.5	18.5	26.1	18.0	6
10	KQ2H10-00	18.5	42.5	21	41.5	29.5	11
12	KQ2H12-00	20.9	44.5	22	58.3	46.1	14
16	KQ2H16-00	26.5	51	25	113	(96)	24



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

Different Diameter Straight: KQ2H

Applicable tubing O.D. (mm)		Model	Note) øD	L	M1	M2	Effective area (mm ²)		Mass (g)
(a)	(b)						Nylon	Urethane	
3.2	4	KQ2H23-04	10.4	32.5	15.5	16	3.4	2.9	3
4	6	KQ2H04-06	12.8	34.5	16	17	5.6	5.6	5
6	8	KQ2H06-08	15.2	38.5	17	18.5	13.1	10.4	6
8	10	KQ2H08-10	18.5	42	18.5	21	26.1	18.0	11
10	12	KQ2H10-12	20.9	44.5	21	22	41.5	29.5	14
12	16	KQ2H12-16	26.5	56.5	22	25	58.3	46.1	47



Note) øD: Max. diameter

Male Elbow: KQ2L

<M5>



<M6>

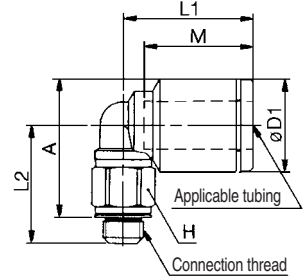


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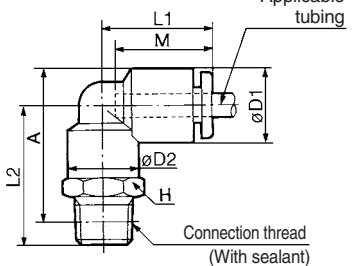


Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	Note ⁽¹⁾		L1	L2	A*	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
				øD1	øD2					Nylon	Urethane	
3.2	M5 x 0.8	KQ2L23-M5	7	8.5	—	15.3	13.2	14.3	12.7	2.6	2.2	2.5
	1/8	KQ2L23-01S	10	9.6	10	17.5	20.6	22.5	15.5	3	2.5	8
	1/4	KQ2L23-02S	14	—	—	—	25	24.5	—	—	—	18
4	M5 x 0.8	KQ2L04-M5	7	9.3	—	15.6	13.7	15.3	12.7	3.5	3.5	2.7
	M6 x 1.0	KQ2L04-M6	8	—	—	—	14.7	—	—	—	—	3.6
	1/8	KQ2L04-01S	10	10.4	10	18	21.1	23	16	4.2	4.2	10
6	1/4	KQ2L04-02S	14	—	—	—	25.5	25	—	—	—	19
	M5 x 0.8	KQ2L06-M5	7	11.6	—	16.1	14.7	17.4	13.5	3.5	3.5	3.2
	M6 x 1.0	KQ2L06-M6	8	—	—	—	15.7	—	—	—	—	4.1
	1/8	KQ2L06-01S	10	12.8	10	20	22.1	25.5	17	11.4	9.0	12
	1/4	KQ2L06-02S	14	—	—	—	26.5	27.5	—	—	—	22
8	3/8	KQ2L06-03S	17	—	—	—	27.9	29	—	—	—	33
	1/8	KQ2L08-01S	12	15.2	12	23	23.6	28	18.5	21.6	14.9	13
	1/4	KQ2L08-02S	14	—	—	—	28	30	—	—	—	21
10	3/8	KQ2L08-03S	17	—	—	—	29.4	31.5	—	—	—	35
	1/8	KQ2L10-01S	17	18.5	17	26.5	26.1	32	21	21.6	14.9	25
	1/4	KQ2L10-02S	—	—	—	—	29.5	33	—	—	—	26
	3/8	KQ2L10-03S	—	—	—	—	30.9	34.5	—	—	—	36
12	1/2	KQ2L10-04S	22	—	—	—	35.1	37	—	—	—	63
	1/4	KQ2L12-02S	17	20.9	17	28.5	30.5	35.5	22	50.2	39.7	28
	3/8	KQ2L12-03S	—	—	—	—	31.9	37	—	—	—	38
16	1/2	KQ2L12-04S	22	—	—	—	36.1	39.5	—	—	—	65
	3/8	KQ2L16-03S	—	—	—	—	36.9	44.5	25	71	(71)	101
	1/2	KQ2L16-04S	—	—	—	—	40.1	46	—	—	—	105

<M5, M6>



<R>



* Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter
Note 2) (): Values for soft nylon.



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

Series KQ2

Male Branch Connector: KQ2LU

<M5, M6>



<R>

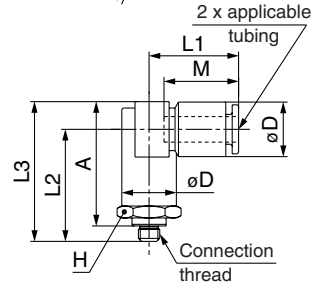
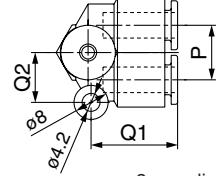


Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	Note) ϕD	L1	L2	L3	A*	M	P	Q1	Q2	Effective area (mm ²)		Mass (g)
													Nylon	Urethane	
4	M5 x 0.8	KQ2LU04-M5	11	10.4	18.5	24	29.5	25.5	16	10.4	18.5	10	4.3	4.1	10
	M6 x 1.0	KQ2LU04-M6				24.5	30								
	1/8	KQ2LU04-01S	25.6			31.1	27.5	6.0					4.1	12	
	1/4	KQ2LU04-02S	30			35.5	30								
6	M5 x 0.8	KQ2LU06-M5	13	12.8	21	26.5	33	29.5	17	12.8	20.5	12	4.3	4.3	13
	M6 x 1.0	KQ2LU06-M6				27	33.5								
	1/8	KQ2LU06-01S	28.6			35.1	32	13.9					11.0	15	
	1/4	KQ2LU06-02S	32.5			39	33.5								
8	1/8	KQ2LU08-01S	17	15.2	24	33.1	40.6	38	18.5	15.2	24.5	14	26.3	18.2	27
	1/4	KQ2LU08-02S				36.5	44								
	3/8	KQ2LU08-03S	36.9			44.4	39	35							
	1/2	KQ2LU08-04S	39.5			49	43.5								
10	1/4	KQ2LU10-02S	19	18.5	27	39.9	49.4	44	21	18.5	28	16	40.8	29.0	42
	3/8	KQ2LU10-03S				39.9	49.4								
	1/2	KQ2LU10-04S	43.6			53.1	45.5	64							
12	1/4	KQ2LU12-02S	22	20.9	29	42	52.5	47	22	20.9	30	18	57.2	45.2	58
	3/8	KQ2LU12-03S				42.4	52.9								
	1/2	KQ2LU12-04S	45.6			56.1	49	65							

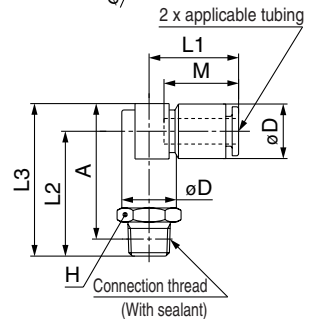
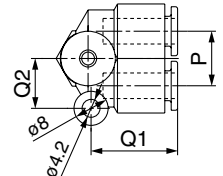
* Reference dimensions after R thread installation.
Note) ϕD : Max. diameter



<M5, M6>



<R>



45° Male Elbow: KQ2K

<M5, M6>



<R>



Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	$\phi D1$ (1)	$\phi D2$	L1	L2	A*	M	Effective area (2) (mm ²)		Mass (g)
										Nylon	Urethane	
4	M5 x 0.8	KQ2K04-M5	8	10.4	8	17	14.5	26	16	3.4	3.4	4
	M6 x 1.0	KQ2K04-M6					15					
	1/8	KQ2K04-01S	10				19.6	32				10
	1/4	KQ2K04-02S	14				24	34				
6	M5 x 0.8	KQ2K06-M5	8	12.8	8	18	14.5	27.5	17	8.7	6.9	6
	M6 x 1.0	KQ2K06-M6					15					
	1/8	KQ2K06-01S	10				19.6	33				12
	1/4	KQ2K06-02S	14				24	35				
8	1/8	KQ2K08-01S	12	15.2	12	20.5	21.1	37	18.5	19.7	19.7	13
	1/4	KQ2K08-02S					25.5					
	3/8	KQ2K08-03S	17				26.9	41				21
	1/2	KQ2K08-04S	27				45.5					
10	1/8	KQ2K10-01S	17	18.5	17	24	23.1	42	21	30.9	23.2	25
	1/4	KQ2K10-02S					26.5					
	3/8	KQ2K10-03S	27.9				45	26				
	1/2	KQ2K10-04S	32.1				47.5					
12	1/4	KQ2K12-02S	17	20.9	17	25	27	45.5	22	44.5	35.1	28
	3/8	KQ2K12-03S					28.4					
	1/2	KQ2K12-04S	32.6				49.5	28				
	3/8	KQ2K16-03S	22				30.9					55
16	1/2	KQ2K16-04S	22	26.5	20.9	30	34.1	56.5	25	65.8	(78.3)	58

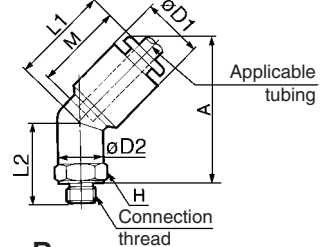
* Reference dimensions after R thread installation.

Note 1) $\phi D1$: Max. diameter

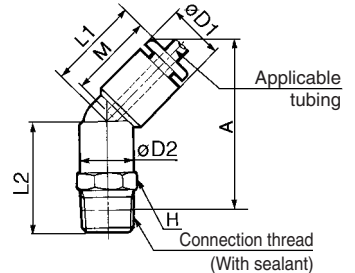
Note 2) (): Values for soft nylon.



<M5, M6>



<R>



Universal Male Elbow: KQ2V

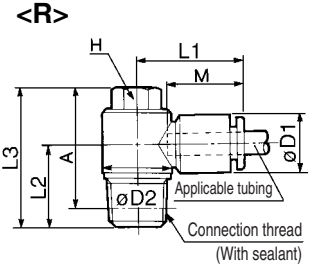
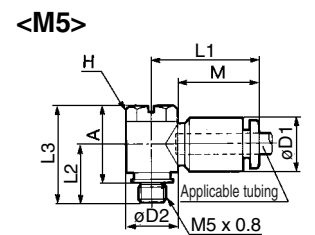
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Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	(1)							M	Effective area (2) (mm ²)		Mass (g)
				øD1	øD2	L1	L2	L3	A*	Nylon		Urethane		
4	M5 x 0.8	KQ2V04-M5	8	10.4	9.8	20.5	11	18.5	15	16	2.9	2.9	6	
	1/8	KQ2V04-01S			13.4	22	13.6	25.6	22.5				14	
6	M5 x 0.8	KQ2V06-M5	8	12.8	9.8	23.5	12	18.5	15	17	3.8	3.8	7	
	1/8	KQ2V06-01S			13.4	24	13.6	25.6	22.5				15	
	1/4	KQ2V06-02S	10	15.4	23.5	18	30.5	25	18.5	16	11.2	24		
	3/8	KQ2V08-03S			14	20.6	27.5	19.4					35.4	30
8	1/8	KQ2V08-01S	12	15.2	17.6	28.5	14.6	27.6	24.5	21	27	20.3	40	
	1/4	KQ2V08-02S			18.5	20.6	31	19.4	35.4				30	49
10	3/8	KQ2V10-03S	14	18.5	20.6	34	20.9	37.4	32	22	39	30.8	63	
	1/2	KQ2V12-04S			17	20.9	25.2	24.1	40.6				33.5	80
12	3/8	KQ2V12-03S	17	20.9	25.2	34	20.9	37.4	32	25	55 (55)	103		
	1/2	KQ2V16-04S			21	26.5	32.3	28.6	48.6				41.5	110



* Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter

Note 2) (): Values for soft nylon.



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

Hexagon Socket Head Universal Male Elbow: KQ2VS

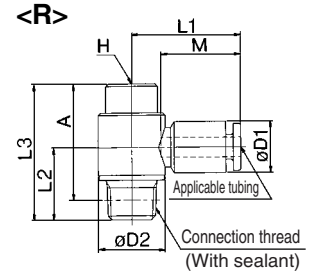
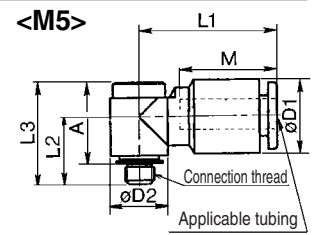
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Applicable tubing O.D. (mm)	Connection thread R M	Model	H (width across flats)	Note)							M	Effective area (mm ²)		Mass (g)
				øD1	øD2	L1	L2	L3	A*	Nylon		Urethane		
4	M5 x 0.8	KQ2VS04-M5	4	10.4	9.8	20.5	10.5	18	15	16	2.9	2.9	6	
	1/8	KQ2VS04-01S			6	13.4	22	13.6	25.6				22.5	14
6	M5 x 0.8	KQ2VS06-M5	4	12.8	9.8	23.5	12	18	15	17	3.8	3.8	7	
	1/8	KQ2VS06-01S			6	13.4	24	13.6	25.6				22.5	15
	1/4	KQ2VS06-02S	6	15.4	23.5	18	26.5	21	18.5	16	11.2	24		
	3/8	KQ2VS08-03S			8	15.2	17.6	28.5					14.6	26.1
8	1/4	KQ2VS08-02S	8	15.2	17.6	28.5	14.6	26.1	23	21	27	20.3	32	
	3/8	KQ2VS10-03S			8	18.5	20.6	31	19.4				31.4	26
10	1/4	KQ2VS10-02S	8	18.5	20.6	31	19.4	31.4	26	22	39	30.8	48	
	3/8	KQ2VS12-03S			10	20.9	25.2	34	20.9				34.9	30
12	3/8	KQ2VS12-03S	10	20.9	25.2	34	20.9	34.9	30	22	39	30.8	48	
	1/2	KQ2VS12-04S			10	20.9	25.2	34	20.9				34.9	30



* Reference dimensions after R thread installation.

Note) øD1: Max. diameter



Series KQ2

Universal Female Elbow: KQ2VF

<M5>

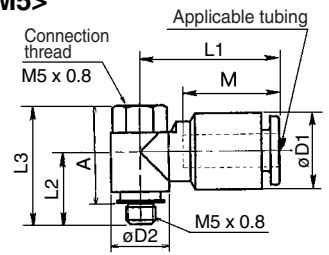


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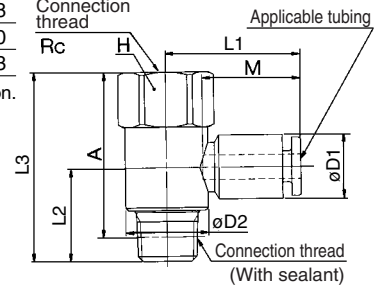


Applicable tubing O.D. (mm)	Connection thread Rc R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	Mass (g)	
4	M5 x 0.8	KQ2VF04-M5	8	10.4	9.8	20.5	11	20	16	16	6	
	1/8	KQ2VF04-01S	14		13.4	22	14.6	28.6	25.5		19	
6	M5 x 0.8	KQ2VF06-M5	8	12.8	9.8	23.5	12.5	20	16	17	7	
	1/8	KQ2VF06-01S	14		13.4	24.5	14.6	28.6	25.5		19	
	1/4	KQ2VF06-02S	17		17.6	25	19.5	38	32.5		36	
8	1/8	KQ2VF08-01S	17	15.2	17.6	28.5	16.1	30.1	27	18.5	29	
	1/4	KQ2VF08-02S			19.5	38	32.5	37				
	3/8	KQ2VF08-03S			22	25.2	29.5	24.4	44.4		39	66
10	1/4	KQ2VF10-02S	19	18.5	20.6	31.5	21.5	40.5	35	21	48	
	3/8	KQ2VF10-03S			22	25.2	34	23.4	44.4		39	68
	3/8	KQ2VF12-03S			22	25.2	34	23.4	44.4		39	70
12	3/8	KQ2VF12-03S	22	20.9	27	35	24.6	49.1	42	22	93	
	1/2	KQ2VF12-04S										

<M5>



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

Female Elbow: KQ2LF

<M5, M6>

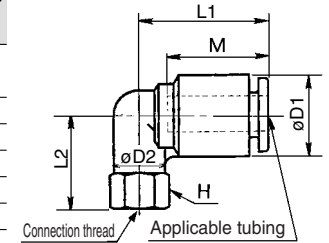


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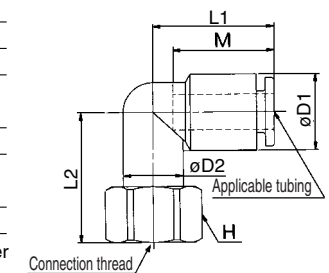


Applicable tubing O.D. (mm)	Connection thread Rc	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	M	Effective area (mm ²)		Mass (g)	
									Nylon	Urethane		
4	M5 x 0.8	KQ2LF04-M5	8	10.4	8	18.5	14.5	16	3.5	3.5	5	
	M6 x 1.0	KQ2LF04-M6	14				15.5					13
	1/8	KQ2LF04-01	14				21					20
	1/4	KQ2LF04-02	17				24.5					20
6	M5 x 0.8	KQ2LF06-M5	8	12.8	8	20.5	15	17	3.5	3.5	5	
	M6 x 1.0	KQ2LF06-M6	14				16				6	
	1/8	KQ2LF06-01	14				22				13	
	1/4	KQ2LF06-02	17				25.5				20	
	3/8	KQ2LF06-03	19				26				20	
8	1/8	KQ2LF08-01	14	15.2	12	23.5	23	18.5	21.6	14.9	16	
	1/4	KQ2LF08-02	17				26.5				22	
	3/8	KQ2LF08-03	19				27				23	
10	1/4	KQ2LF10-02	17	18.5	17	26.5	28	21	21.6	14.9	27	
	3/8	KQ2LF10-03	19				28.5				27	
	1/2	KQ2LF10-04	24				32.5				46	
12	1/4	KQ2LF12-02	17	20.9	17	28.5	29.5	22	50.2	39.7	29	
	3/8	KQ2LF12-03	19				30				29	
	1/2	KQ2LF12-04	24				34				48	

<M5>



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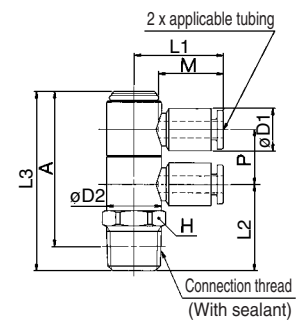


Note) $\phi D1$: Max. diameter

Double Universal Male Elbow: KQ2VD



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Mass (g)	
4	1/8	KQ2VD04-01S	14	10.4	13.4	22	18.5	40.1	37	16	13.4	23	
	1/4	KQ2VD04-02S					21.5	43.5	38			29	
	3/8	KQ2VD04-03S					17	23.5	44.9			40	42
6	1/8	KQ2VD06-01S	14	12.8	13.4	24.5	18.5	40.1	37	17	13.4	24	
	1/4	KQ2VD06-02S					21.5	43.5	38			30	
	3/8	KQ2VD06-03S					17	23.5	44.9			40	42
8	1/8	KQ2VD08-01S	19	15.2	17.6	28.5	21	47.1	44	18.5	15.9	53	
	1/4	KQ2VD08-02S					24	50.5	45			51	
	3/8	KQ2VD08-03S					21	25	50.9			45.5	60
	1/2	KQ2VD08-04S					21	28.5	54.6			47.5	82
10	1/4	KQ2VD10-02S	21	18.5	20.6	31.5	26.5	57.5	52	21	19.2	71	
	3/8	KQ2VD10-03S					27.5	57.9	53			74	
	1/2	KQ2VD10-04S					30.5	61.1	54			91	
12	1/4	KQ2VD12-02S	26	20.9	25.2	34	28.5	64	58.5	22	21.6	118	
	3/8	KQ2VD12-03S					29.5	64.4	59			113	
	1/2	KQ2VD12-04S					32.5	67.6	60			125	

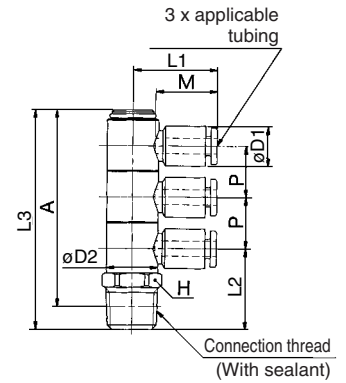


* Reference dimensions after R thread installation.
Note) $\phi D1$: Max. diameter

Triple Universal Male Elbow: KQ2VT



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Mass (g)
4	1/8	KQ2VT04-01S	14	10.4	13.4	22	17.6	53.6	50.5	16	13.4	29
	1/4	KQ2VT04-02S					21	57	51.5			34
	3/8	KQ2VT04-03S					22.4	58.4	53.5			48
6	1/8	KQ2VT06-01S	14	12.8	13.4	24.5	17.5	53.6	50.5	17	13.4	31
	1/4	KQ2VT06-02S					21	57	51.5			37
	3/8	KQ2VT06-03S					21.9	58.4	53.5			50
8	1/8	KQ2VT08-01S	19	15.2	17.6	28.5	20.1	63.1	60	18.5	15.9	71
	1/4	KQ2VT08-02S					23.5	66.5	61			66
	3/8	KQ2VT08-03S					23.9	66.9	61.5			75
	1/2	KQ2VT08-04S					27.6	70.6	63.5			96
10	1/4	KQ2VT10-02S	21	18.5	20.6	31.5	26	77	71.5	21	19.2	94
	3/8	KQ2VT10-03S					26.4	77.4	72			111
	1/2	KQ2VT10-04S					29.6	80.6	73.5			153
12	1/4	KQ2VT12-02S	26	20.9	25.2	34	28.4	85.9	80	22	21.6	142
	3/8	KQ2VT12-03S					31.6	89.1	80.5			154
	1/2	KQ2VT12-04S					31.6	89.1	82			



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



Branch Universal Male Elbow: KQ2Z

<M5>

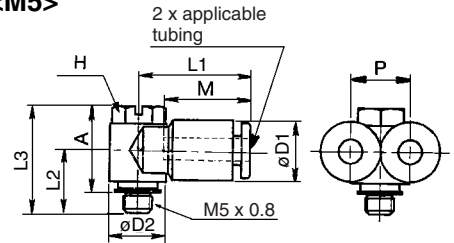


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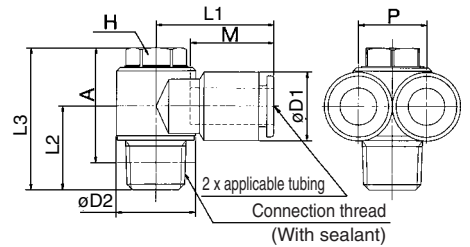


Applicable tubing O.D. (mm)	Connection thread R/M	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Effective area (mm ²)		Mass (g)			
												Nylon	Urethane				
4	M5 x 0.8	KQ2Z04-M5	8	10.4	9.8	19.5	11	18.5	15	16	10.4	3.4	3.4	8			
	1/8	KQ2Z04-01S										4.7	4.7	16			
6	1/8	KQ2Z06-01S	8	12.8	13.4	22	13.6	25.6	22.5	17	12.8	10.8	8.6	17			
	1/4	KQ2Z06-02S												19	35	29.5	39
	3/8	KQ2Z06-03S												19.4	35.4	30	47
8	1/8	KQ2Z08-01S	12	15.2	17.6	26	14.6	27.6	24.5	18.5	15.2	20.5	14.2	27			
	1/4	KQ2Z08-02S												18	31	25.5	33
	3/8	KQ2Z08-03S												20.6	27	19.4	35.4
10	1/4	KQ2Z10-02S	14	18.5	20.6	29	19	35	29.5	21	18.5	31.8	22.6	46			
	3/8	KQ2Z10-03S												19.4	35.4	30	54
	1/2	KQ2Z10-04S												20.9	37.9	32.5	71
12	3/8	KQ2Z12-03S	17	20.9	25.2	32.5	24.1	41.1	34	22	20.9	44.6	35.3	71			
	1/2	KQ2Z12-04S												24.1	41.1	34	88

<M5>



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



Branch Universal Female Elbow: KQ2ZF

<M5>

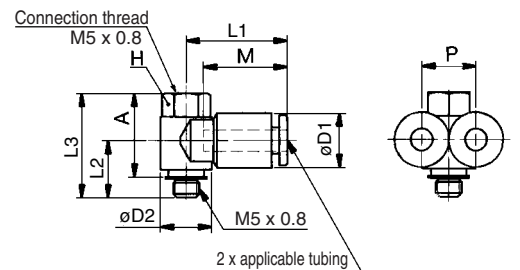


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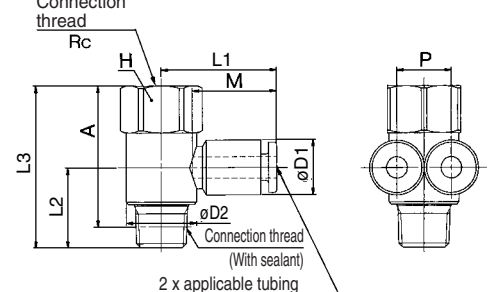


Applicable tubing O.D. (mm)	Connection thread R/M/Rc	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P	Mass (g)
4	M5 x 0.8	KQ2ZF04-M5	8	10.4	9.8	19.5	11	20	16.5	16	10.4	8
	1/8	KQ2ZF04-01S										13.4
6	1/8	KQ2ZF06-01S	14	12.8	13.4	22	14.6	28.6	25.5	17	12.8	21
	1/4	KQ2ZF06-02S										20.6
8	1/8	KQ2ZF08-01S	17	15.2	17.6	25.5	16.1	30.1	27	18.5	15.2	32
	1/4	KQ2ZF08-02S										20.6
10	1/4	KQ2ZF10-02S	19	18.5	20.6	29	21.5	40.5	35	21	18.5	54
	3/8	KQ2ZF10-03S										22
12	3/8	KQ2ZF12-03S	22	20.9	25.2	32.5	23.4	44.4	39	22	20.9	77
	1/2	KQ2ZF12-04S										24

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



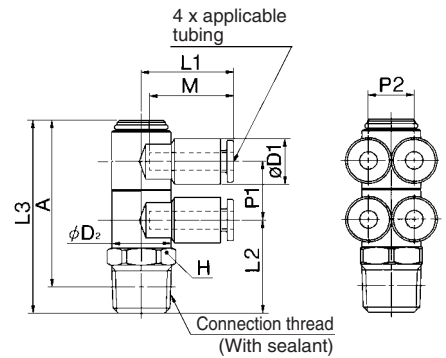
Series KQ2

Double Branch Universal Male Elbow: KQ2ZD



Applicable tubing O.D. (mm)	Connection threads R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P1	P2	Mass (g)
4	1/8	KQ2ZD04-01S	14	10.4	13.4	21	17.6	40.1	37	16	13.4	10.4	25
	1/4	KQ2ZD04-02S					21	43.5	38				31
	3/8	KQ2ZD04-03S					17	22.4	44.9				40
6	1/8	KQ2ZD06-01S	14	12.8	13.4	22	17.6	40.1	37	17	13.4	12.8	27
	1/4	KQ2ZD06-02S					21	43.5	38				33
	3/8	KQ2ZD06-03S					17	22.4	44.9				40
8	1/8	KQ2ZD08-01S	19	15.2	17.6	26	20.1	47.1	44	18.5	15.9	15.2	56
	1/4	KQ2ZD08-02S					23.5	50.5	45				54
	3/8	KQ2ZD08-03S					23.5	50.9	45.5				62
	1/2	KQ2ZD08-04S					21	27.6	54.6				47.5
10	1/4	KQ2ZD10-02S	21	18.5	20.6	29	26	57.5	52	21	19.2	18.5	83
	3/8	KQ2ZD10-03S					26.4	57.9	53				85
	1/2	KQ2ZD10-04S					29.6	61.1	54				102
12	1/4	KQ2ZD12-02S	26	20.9	25.2	32	28	64	58.5	22	21.6	20.9	134
	3/8	KQ2ZD12-03S					28.5	64.4	59				130
	1/2	KQ2ZD12-04S					31.6	67.6	60				141

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

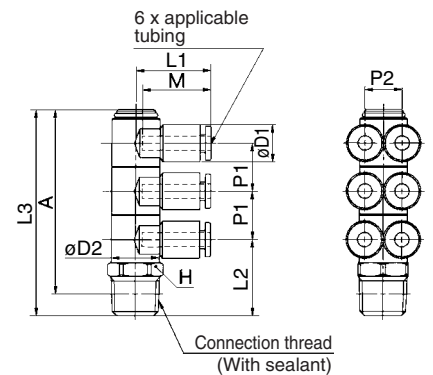


Triple Branch Universal Male Elbow: KQ2ZT



Applicable tubing O.D. (mm)	Connection threads R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L1	L2	L3	A*	M	P1	P2	Mass (g)
4	1/8	KQ2ZT04-01S	14	10.4	13.4	21	16.7	53.6	50.5	16	13.4	10.4	34
	1/4	KQ2ZT04-02S					20.5	57	51.5				40
	3/8	KQ2ZT04-03S					17	22.4	58.4				53.5
6	1/8	KQ2ZT06-01S	14	12.8	13.4	22	17.6	53.6	50.5	17	13.4	12.8	38
	1/4	KQ2ZT06-02S					21	57	51.5				43
	3/8	KQ2ZT06-03S					17	22.4	58.4				53.5
8	1/8	KQ2ZT08-01S	19	15.2	17.6	26	20.1	63.1	60	18.5	15.9	15.2	76
	1/4	KQ2ZT08-02S					23.5	66.5	61				72
	3/8	KQ2ZT08-03S					23.5	66.9	61.5				81
	1/2	KQ2ZT08-04S					21	27.6	70.6				63.5
10	1/4	KQ2ZT10-02S	21	18.5	20.6	29	26	77	71.5	21	19.2	18.5	111
	3/8	KQ2ZT10-03S					26.4	77.4	72				128
	1/2	KQ2ZT10-04S					29.6	80.6	73.5				128
12	1/4	KQ2ZT12-02S	26	20.9	25.2	32	28	85.5	80	22	21.6	20.9	178
	3/8	KQ2ZT12-03S					28.5	85.9	80.5				167
	1/2	KQ2ZT12-04S					31.6	89.1	82				179

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

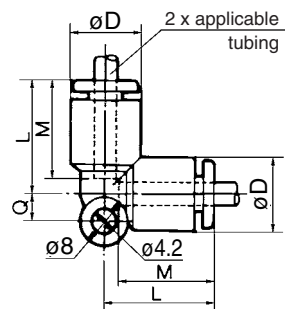


Union Elbow: KQ2L



Applicable tubing O.D. (mm)	Model	$\phi D^{(1)}$	L	Q	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
						Nylon	Urethane	
3.2	KQ2L23-00	9.6	17.5	4.3	15.5	3	2.5	3
4	KQ2L04-00	10.4	18	4.5	16	4.2	4.2	6
6	KQ2L06-00	12.8	20	5.3	17	11.4	9.0	6
8	KQ2L08-00	15.2	23	6	18.5	21.6	14.9	10
10	KQ2L10-00	18.5	26.5	6.8	21	35.2	25.0	17
12	KQ2L12-00	20.9	28.5	7.5	22	50.2	39.7	21
16	KQ2L16-00	26.5	34	10	25	100	(84)	29

Note 1) ϕD : Max. diameter
Note 2) (): Valves for soft nylon.

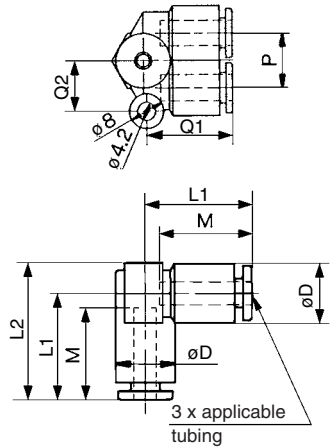


Branch Union Elbow: KQ2LU



Applicable tubing O.D. (mm)	Model	Note) ϕD	L1	L2	Q1	Q2	M	P	Effective area (mm ²)		Mass (g)
									Nylon	Urethane	
									4	KQ2LU04-00	
6	KQ2LU06-00	12.8	21	27.5	20.5	12	17	12.8	13.9	11.0	8
8	KQ2LU08-00	15.2	24	32	24.5	14	18.5	15.2	26.3	18.2	15
10	KQ2LU10-00	18.5	27	36.5	28	16	21	18.5	40.8	29.0	25
12	KQ2LU12-00	20.9	29	40	30	18	22	20.9	57.2	45.2	32

Note) ϕD : Max. diameter

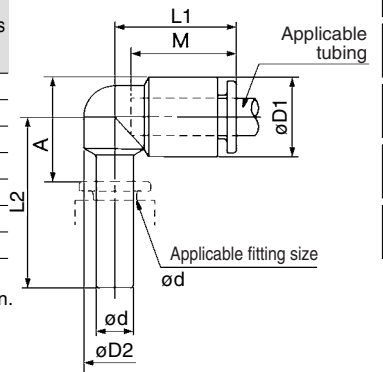


Plug-in Elbow: KQ2L



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	(1) $\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (2) (mm ²)		Mass (g)
									Nylon	Urethane	
									3.2	3.2	
4	4	KQ2L04-99	10.4	8	18	25	14.5	16	4.2	4.2	3
6	6	KQ2L06-99	12.8	10	20	27.5	17	17	11.4	9.0	3
8	8	KQ2L08-99	15.2	12	22.5	31.5	21	18.5	21.6	14.9	5
10	10	KQ2L10-99	18.5	14	25.5	35.5	23.5	21	35.2	25.0	9
12	12	KQ2L12-99	20.9	16	27	37.5	26	22	50.2	39.7	10
16	16	KQ2L16-99	26.5	20.9	34	53	41	25	100	(84)	42

Note 1) $\phi D1$: Max. diameter
Note 2) (): Values for soft nylon.



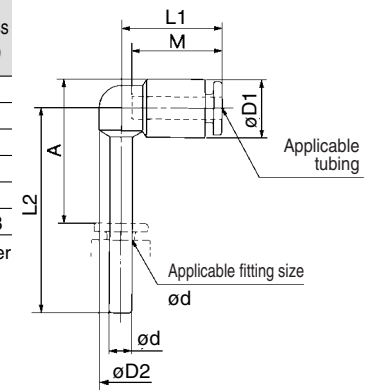
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Extended Plug-in Elbow: KQ2W



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm ²)		Mass (g)
									Nylon	Urethane	
									3.2	3.2	
4	4	KQ2W04-99	10.4	8	18	37	26	16	4.2	4.2	3
6	6	KQ2W06-99	12.8	10	20	41.5	31	17	11.4	9.0	4
8	8	KQ2W08-99	15.2	10	22.5	48	37	18.5	21.6	14.9	6
10	10	KQ2W10-99	18.5	14	25.5	55	43.5	21	35.2	25.0	9
12	12	KQ2W12-99	20.9	16	27	59.5	48	22	50.2	39.7	13

Note) $\phi D1$: Max. diameter

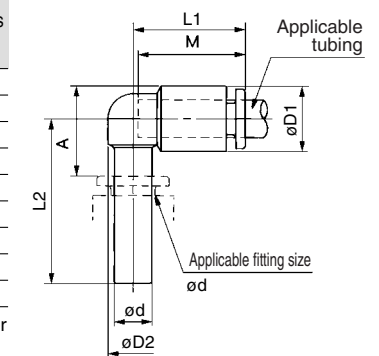


Reducer Elbow: KQ2L



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	Note) $\phi D1$	$\phi D2$	L1	L2	A	M	Effective area (mm ²)		Mass (g)
									Nylon	Urethane	
									3.2	4	
4	6	KQ2L04-06	10.4	8	18	26	14.5	16	4.2	4.2	3
	8	KQ2L04-08		10	35	22	11				
6	8	KQ2L06-08	12.8	10	19.5	30.5	18	17	11.4	9.0	12
	10	KQ2L06-10			20	38.5	24				19
8	10	KQ2L08-10	15.2	12	22.5	33.5	20.5	18.5	21.6	14.9	20
	12	KQ2L08-12			23	40.5	26				27
10	12	KQ2L10-12	18.5	17	26.5	42	29.5	21	35.2	25.0	29
12	16	KQ2L12-16	20.9	17	28.5	49.5	34.5	22	50.2	39.7	53

Note) $\phi D1$: Max. diameter



Series KQ2

Extended Male Elbow: KQ2W

<M5>



<R>



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	⁽¹⁾		L1	L2	A*	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
				øD1	øD2					Nylon	Urethane	
3.2	M5 x 0.8	KQ2W23-M5	8	9.6	10	17.5	30	31	15.5	2.8	2.4	10
	1/8	KQ2W23-01S	10				37	38				19
	1/4	KQ2W23-02S	14				43	42				41
4	M5 x 0.8	KQ2W04-M5	8	10.4	10	18	30	32	16	3.0	3.0	11
	1/8	KQ2W04-01S	10				36.6	38.5				23
	1/4	KQ2W04-02S	14				43	42.5				38
6	M5 x 0.8	KQ2W06-M5	8	12.8	10	20	30.5	33.5	17	3	3	11
	1/8	KQ2W06-01S	10				39.1	42.5				26
	1/4	KQ2W06-02S	14				45.5	46.5				41
8	1/8	KQ2W08-01S	12	15.2	12	23	42.6	47	18.5	20.5	14.2	30
	1/4	KQ2W08-02S	14				49	51				47
	3/8	KQ2W08-03S	17				50.4	52.5				74
10	1/4	KQ2W10-02S	17	18.5	17	26.5	56	59.5	21	33.5	23.8	66
	3/8	KQ2W10-03S	17				57.4	61				76
	1/2	KQ2W10-04S	22				64.1	66				145
12	1/4	KQ2W12-02S	17	20.9	17	28.5	57	62	22	47.7	37.7	68
	3/8	KQ2W12-03S	17				58.4	63.5				78
	1/2	KQ2W12-04S	22				65.1	68.5				147
16	3/8	KQ2W16-03S	22	26.5	20.9	34	68.4	76	25	71	(71)	101
	1/2	KQ2W16-04S	22				72.1	78				105

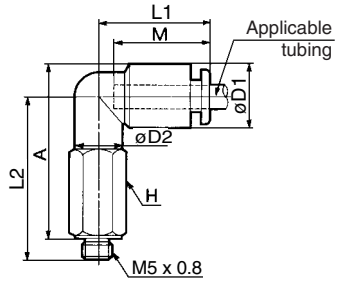
* Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter

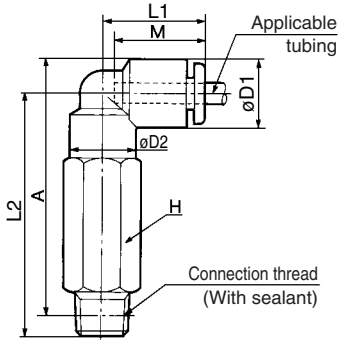
Note 2) (): Values for soft nylon



<M5>



<R>



Male Branch Tee: KQ2T

<M5>



<M6>



<R>



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	⁽¹⁾		L1	L2	A*	M	Effective area ⁽²⁾ (mm ²)		Mass (g)
				øD1	øD2					Nylon	Urethane	
3.2	M5 x 0.8	KQ2T23-M5	7	8.4	10	15.3	13.2	14.3	12.7	3.2	2.7	3.2
	1/8	KQ2T23-01S	10				20.6	22.5				10
	1/4	KQ2T23-02S	14				25	24.5				20
4	M5 x 0.8	KQ2T04-M5	7	9.3	10	18	13.7	15.3	12.7	4.5	4.5	3.5
	M6 x 1.0	KQ2T04-M6	8				14.7					4.4
	1/8	KQ2T04-01S	10				21.1	23				13
6	1/4	KQ2T04-02S	14	10.4	10	21	25.5	25	16	6.0	4.1	19
	M5 x 0.8	KQ2T06-M5	7				14.7	17.4				4.4
	M6 x 1.0	KQ2T06-M6	8				15.7					5.3
8	1/8	KQ2T06-01S	10	11.6	10	21	22.1	25.5	13.5	4.5	4.5	12
	1/4	KQ2T06-02S	14				26.5	27.5				20
	3/8	KQ2T06-03S	17				27.9	29				34
10	1/8	KQ2T08-01S	12	12.8	10	24	23.6	28	17	13.9	11.0	14
	1/4	KQ2T08-02S	14				28	30				22
	3/8	KQ2T08-03S	17				29.4	31.5				36
12	1/8	KQ2T10-01S	12	15.2	12	24	26.1	32	18.5	26.3	18.2	31
	1/4	KQ2T10-02S	14				29.5	33				29
	3/8	KQ2T10-03S	17				30.9	34.5				39
16	1/2	KQ2T10-04S	22	18.5	17	26.5	35.1	37	21	35.2	25	66
	1/4	KQ2T12-02S	17				30.5	35.5				31
	3/8	KQ2T12-03S	17				31.9	37				41
16	1/2	KQ2T12-04S	22	20.9	17	28.5	36.1	39.5	22	57.2	45.2	68
	3/8	KQ2T16-03S	22				36.9	44.5				112
	1/2	KQ2T16-04S	22				39.6	46				116

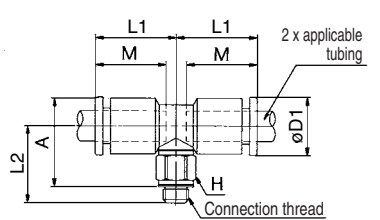
* Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter

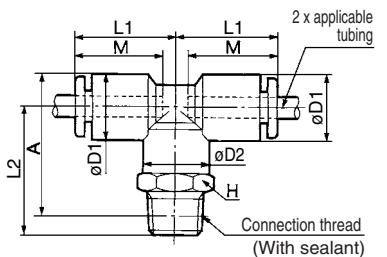
Note 2) (): Values for soft nylon



<M5, M6>



<R>

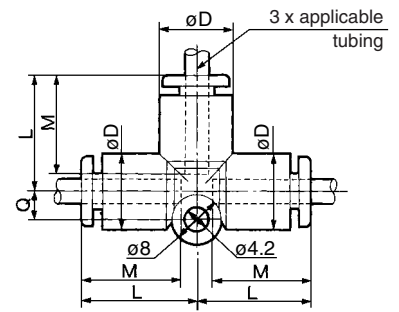


Union Tee: KQ2T



Applicable tubing O.D. (mm)	Model	⁽¹⁾				Effective area ⁽²⁾ (mm ²)		Mass (g)
		øD	L	Q	M	Nylon	Urethane	
3.2	KQ2T23-00	9.6	17.5	4.3	15.5	3.4	2.9	5
4	KQ2T04-00	10.4	18	4.5	16	6.4	4.4	7
6	KQ2T06-00	12.8	21	5.3	17	13.4	10.6	10
8	KQ2T08-00	15.2	24	6	18.5	25.6	17.7	15
10	KQ2T10-00	18.5	26.5	6.8	21	40	28.4	25
12	KQ2T12-00	20.9	28.5	7.5	22	57.4	45.4	29
16	KQ2T16-00	26.5	34	10	25	100	(84)	40

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

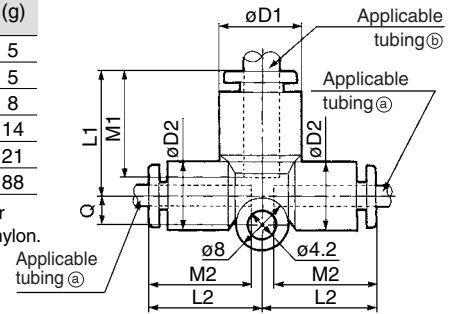


Different Diameter Tee: KQ2T



Applicable tubing O.D. (mm)		Model	⁽¹⁾				Effective area ⁽²⁾ (mm ²)		Mass (g)			
(a)	(b)		øD1	øD2	L1	L2	Q	M1		M2	Nylon	Urethane
3.2	4	KQ2T23-04	10.4	9.6	18	17.5	4.3	16	15.5	3.8	3.5	5
4	6	KQ2T04-06	12.8	10.4	19.5	18	4.5	17	16	7.1	6.5	5
6	8	KQ2T06-08	15.2	12.8	22.5	21	5.3	18.5	17	16.4	16.4	8
8	10	KQ2T08-10	18.5	15.2	26.5	24	6	21	18.5	36	27.2	14
10	12	KQ2T10-12	20.9	18.5	28.5	26.5	6.8	22	21	56	44.5	21
12	16	KQ2T12-16	26.5	26.5	34	39	10	25	22	108.5	(92.2)	88

Note 1) øD1: Max. diameter
Note 2) (): Values for soft nylon.

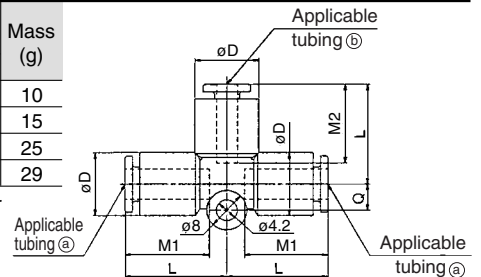


Different Diameter Tee: KQ2T



Applicable tubing O.D. (mm)		Model	^{Note)}	L	Q	M1	M2	Effective area (mm ²)		Mass (g)
(a)	(b)		øD					Nylon	Urethane	
6	4	KQ2T06-04	12.8	21	5.3	17	16	6.4	4.4	10
8	6	KQ2T08-06	15.2	24	6	18.5	17	13.4	10.6	15
10	8	KQ2T10-08	18.5	26.5	6.8	21	18.5	25.6	17.7	25
12	10	KQ2T12-10	20.9	28.5	7.5	22	21	40	28.4	29

Note) øD: Max. diameter

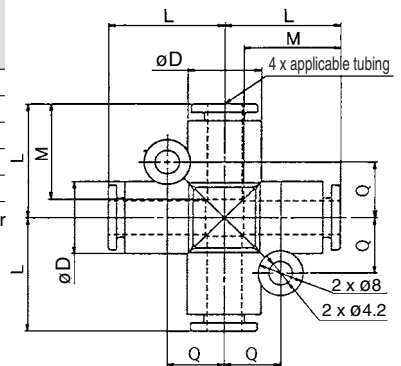


Cross: KQ2TW



Applicable tubing O.D. (mm)		Model	^{Note)}	L	Q	M	Effective area (mm ²)		Mass (g)
(a)	(b)		øD				Nylon	Urethane	
4		KQ2TW04-00	10.4	18	8.7	16	6.4	4.4	9
6		KQ2TW06-00	12.8	21	9.9	17	13.4	10.6	13
8		KQ2TW08-00	15.2	24	11.1	18.5	25.6	17.7	20
10		KQ2TW10-00	18.5	26.5	12.8	21	40	28.4	33
12		KQ2TW12-00	20.9	28.5	13.9	22	57.4	45.4	39

Note) øD: Max. diameter

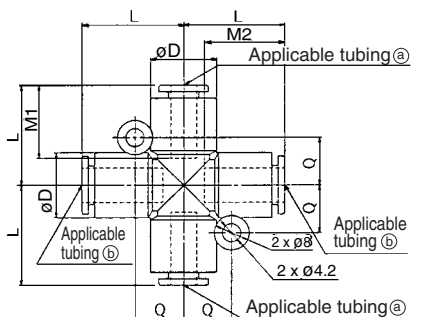


Different Diameter Cross: KQ2TX



Applicable tubing O.D. (mm)		Model	^{Note)}	L	Q	M1	M2	Effective area (mm ²)		Mass (g)
(a)	(b)		øD					Nylon	Urethane	
6	8	KQ2TX06-08	15.2	23	11.1	18.5	17	13.4	10.6	13
8	10	KQ2TX08-10	18.5	26.5	12.8	21	18.5	25.6	17.7	27
10	12	KQ2TX10-12	20.9	28.5	13.9	22	21	40	28.4	36

Note) øD: Max. diameter



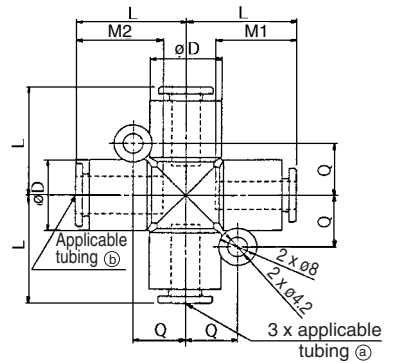
Series KQ2

Different Diameter Cross: KQ2TY



Applicable tubing O.D. (mm)		Model	Note) øD	L	Q	M1	M2	Effective area (mm ²)		Mass (g)
Ⓐ	Ⓑ							Nylon	Urethane	
6	8	KQ2TY06-08	15.2	23	11.1	17	18.5	13.4	10.6	15
8	10	KQ2TY08-10	18.5	26.5	12.8	18.5	21	25.6	17.7	23
10	12	KQ2TY10-12	20.9	28.5	13.9	21	22	40	28.4	35

Note) øD: max. diameter



Male Run Tee: KQ2Y

<M5>



<M6>



<R>



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note 1)		L1	L2	L3	A*	M	Effective area 2)		Mass (g)
				øD1	øD2						Nylon	Urethane	
3.2	M5 x 0.8	KQ2Y23-M5	7	8.4	—	15.4	13.2	14.8	24.9	12.7	3.2	2.7	3.2
	1/8	KQ2Y23-01S	10	9.6	10	17.5	20.6	—	35	15.5	3.4	2.9	10
	1/4	KQ2Y23-02S	14				25	37	20				
4	M5 x 0.8	KQ2Y04-M5	7	9.3	—	15.6	13.7	14.8	25.4	12.7	4.5	4.5	3.5
	M6 x 1.0	KQ2Y04-M6	8				14.7						—
	1/8	KQ2Y04-01S	10	10.4	10	18	21.1	—	36	16	6.4	4.4	13
1/4	KQ2Y04-02S	14	25.5				38						19
6	M5 x 0.8	KQ2Y06-M5	7	11.6	—	17.1	14.7	17.1	28.7	13.5	4.5	4.5	4.5
	M6 x 1.0	KQ2Y06-M6	8				15.7						—
	1/8	KQ2Y06-01S	10	12.8	10	20	22.1	—	39	17	13.4	10.6	12
1/4	KQ2Y06-02S	14	26.5				41						20
8	3/8	KQ2Y06-03S	17	15.2	12	23	27.9	—	42.5	18.5	25.6	17.7	34
	1/8	KQ2Y08-01S	12				23.6						43.5
	1/4	KQ2Y08-02S	14	28	45.5	22							
10	3/8	KQ2Y08-03S	17	18.5	17	26.5	29.4	—	47	21	40.0	28.4	36
	1/8	KQ2Y10-01S	7				26.1						49.5
	1/4	KQ2Y10-02S	10	29.5	50.5	29							
12	3/8	KQ2Y10-03S	17	20.9	17	28.5	30.9	—	52	22	57.4	45.4	39
	1/2	KQ2Y10-04S	22				35.1						54.5
	1/4	KQ2Y12-02S	10	30.5	53.5	31							
16	3/8	KQ2Y12-03S	17	26.5	20.9	34	31.9	—	55	25	81	(81)	41
	1/2	KQ2Y12-04S	22				36.1						57.5
	3/8	KQ2Y16-03S	17	36.9	65.5	81							
1/2	KQ2Y16-04S	22	40.1	67	113	(113)	116						

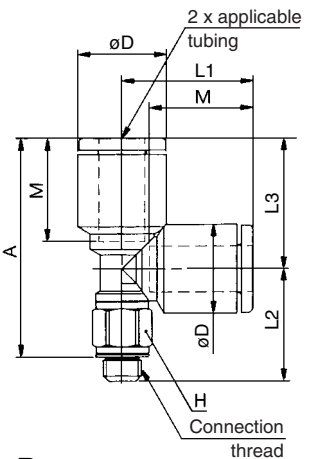
* Reference dimensions after R thread installation.

Note 1) øD1: Max. diameter

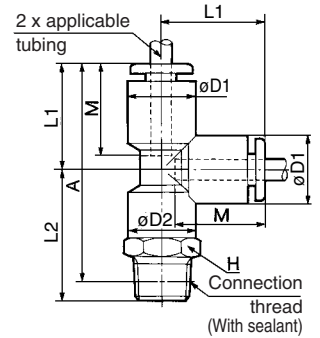
Note 2) (): Values for soft nylon



<M5, M6>



<R>



Male Delta Union: KQ2D

<M5, M6>



<R>



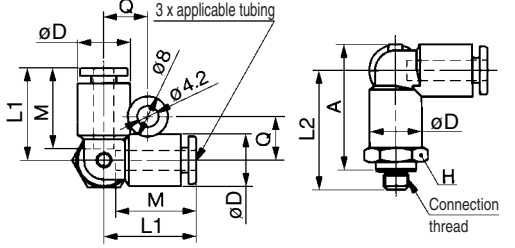
Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) øD	L1	L2	A*	M	Q	Effective area (mm ²)		Mass (g)	
										Nylon	Urethane		
4	M5 x 0.8	KQ2D04-M5	11	10.4	18.5	24	25.5	16	8.7	2.2	2.2	10	
	M6 x 1.0	KQ2D04-M6				24.5				4.3	4.3		
	1/8	KQ2D04-01S				25.6	27.5			6.0	6.0		12
	1/4	KQ2D04-02S				30	29.5			6.0	6.0		21
6	M5 x 0.8	KQ2D06-M5	13	12.8	20.5	26	28.5	17	9.9	4.3	4.3	12	
	M6 x 1.0	KQ2D06-M6				26.5				13.9	11.0		14
	1/8	KQ2D06-01S				28.1	31.5			17	9.9		14
	1/4	KQ2D06-02S				32	33			17	9.9		21
8	3/8	KQ2D06-03S	17			33.4	34.5					34	
	1/8	KQ2D08-01S				32.6	37					26	
	1/4	KQ2D08-02S	17	15.2	23.5	36	38	18.5	11.1	26.3	18.2	26	
10	3/8	KQ2D08-03S				36.4	38.5					35	
	1/4	KQ2D10-02S	19			39	43					39	
	3/8	KQ2D10-03S	19	18.5	26.5	39.4	43.5	21	12.8	40.8	29.0	40	
12	1/2	KQ2D10-04S	22			43.1	45					62	
	1/4	KQ2D12-02S	22	20.9	28.5	41.5	46.5					55	
	3/8	KQ2D12-03S	22	20.9	28.5	41.9	47	22	13.9	57.2	45.2	56	
	1/2	KQ2D12-04S				45.1	48.5					63	

* Reference dimensions after R thread installation.

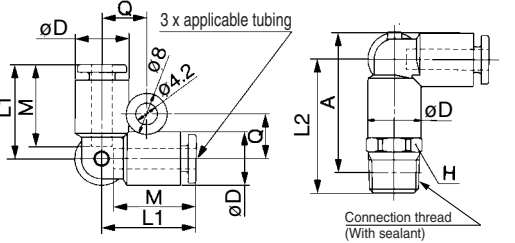
Note) øD: Max. diameter



<M5, M6>



<R>

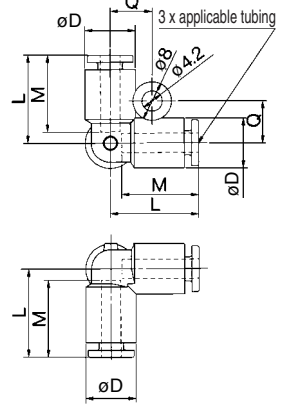


Delta Union: KQ2D



Applicable tubing O.D. (mm)	Model	Note) øD	L	Q	M	Effective area (mm ²)		Mass (g)
						Nylon	Urethane	
4	KQ2D04-00	10.4	18.5	8.7	16	6.0	4.1	5
6	KQ2D06-00	12.8	20.5	9.9	17	13.9	11.0	7
8	KQ2D08-00	15.2	23.5	11.1	18.5	26.3	18.2	11
10	KQ2D10-00	18.5	26.5	12.8	21	40.8	29.0	19
12	KQ2D12-00	20.9	28.5	13.9	22	57.2	45.2	24

Note) øD: Max. diameter



Branch "Y": KQ2U

<M5, M6>



<R>



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note 1) øD	L	P	A*	M	Effective area (2) (mm ²)		Mass (g)
									Nylon	Urethane	
3.2	M5 x 0.8	KQ2U23-M5	10	9.6	38	9.6	34.5	15.5	2.2	2.2	9
	1/8	KQ2U23-01S	11		40.1		37		3.4	2.9	14
	1/4	KQ2U23-02S	14		43.5		38				
4	M5 x 0.8	KQ2U04-M5	11	10.4	39.5	10.4	36	16	2.2	2.2	4
	M6 x 1.0	KQ2U04-M6			40				4.2	4.2	10
	1/8	KQ2U04-01S			41.1		38				11
	1/4	KQ2U04-02S			45.5		40				20
6	M5 x 0.8	KQ2U06-M5	13	12.8	42.5	12.8	39	17	2.2	2.2	12
	M6 x 1.0	KQ2U06-M6			43				13.4	10.6	11
	1/8	KQ2U06-01S			44.6		41.5				21
	1/4	KQ2U06-02S			48.5		43				34
8	3/8	KQ2U06-03S	17			49.9	44.5				15
	1/8	KQ2U08-01S				51.6	48.5				23
	1/4	KQ2U08-02S	17	15.2	15.2	55	50	18.5	25.6	17.7	35
10	3/8	KQ2U08-03S				55.4	50				30
	1/4	KQ2U10-02S	19			60.5	55				40
	3/8	KQ2U10-03S	19	18.5	18.5	60.9	55.5	21	40	28.4	40
12	1/2	KQ2U10-04S	22			64.1	57				65
	1/4	KQ2U12-02S	22	20.9	20.9	64	58.5				32
	3/8	KQ2U12-03S	22	20.9	20.9	64.4	59	22	57.4	45.4	40
16	1/2	KQ2U12-04S				67.6	60.5				65
	3/8	KQ2U16-03S	27	26.5	26.5	74.9	69.5		81	(81)	106
	1/2	KQ2U16-04S	27	26.5	26.5	78.1	71	25	113	(96)	111

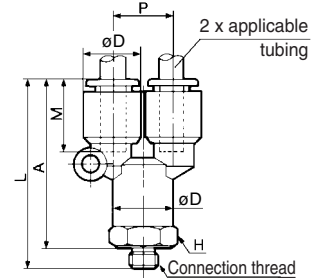
* Reference dimensions after R thread installation.

Note 1) øD: Max. diameter

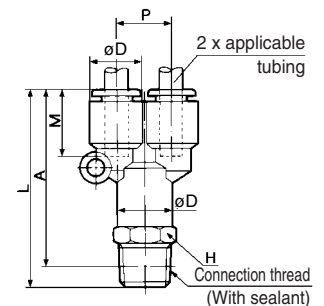
Note 2) (): Values for soft nylon



<M5, M6>



<R>



Series KQ2

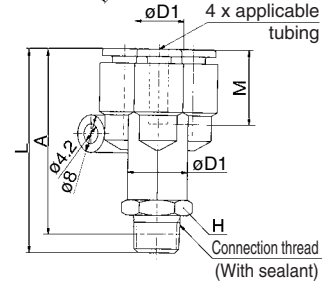
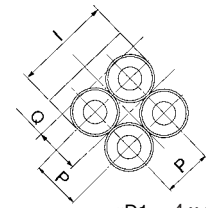
Delta Branch: KQ2UD



Applicable tubing O.D. (mm)	Connection thread R	Model	H (width across flats)	Note) $\phi D1$	$\phi D2$	L	I	A*	Q	M	P	Effective area (mm ²)		Mass (g)
												Nylon	Urethane	
4	1/8	KQ2UD04-01S	13	10.4	12.8	42.6	21	39.5	9.7	16	10.4	4.2	4.2	17
	1/4	KQ2UD04-02S	14			46.5		41				25		
6	1/8	KQ2UD06-01S	17	12.8	15.2	49.6	26	46.5	11.7	17	12.8	13.4	10.6	29
	1/4	KQ2UD06-02S				53		47.5				29		

* Reference dimensions after R thread installation.

Note) $\phi D1$: Max. diameter



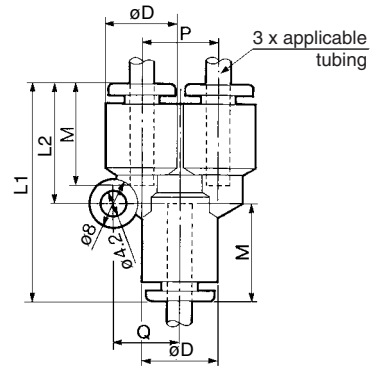
Union "Y": KQ2U



Applicable tubing O.D. (mm)	Model	(1) ϕD	L1	L2	P	Q	M	Effective area (mm ²) (2)		Mass (g)
								Nylon	Urethane	
3.2	KQ2U23-00	9.6	33	17.5	9.6	9	15.5	3.4	2.9	5
4	KQ2U04-00	10.4	34	18	10.4	9.7	16	4.2	4.2	7
6	KQ2U06-00	12.8	37	20	12.8	11.7	17	13.4	10.6	9
8	KQ2U08-00	15.2	42.5	24.5	15.2	13.7	18.5	25.6	17.7	11
10	KQ2U10-00	18.5	48	27.5	18.5	16.1	21	40	28.4	16
12	KQ2U12-00	20.9	51	30	20.9	18.1	22	57.4	45.4	23
16	KQ2U16-00	26.5	61.5	36.5	26.5	23	25	113	(96)	54

Note 1) ϕD : Max. diameter

Note 2) (): Values for soft nylon.

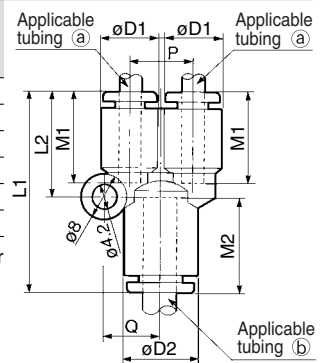


Different Diameter Union "Y": KQ2U



Applicable tubing O.D. (mm)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	P	Q	M1	M2	Effective area (mm ²)		Mass (g)
(a)	(b)										Nylon	Urethane	
3.2	4	KQ2U23-04	9.6	10.4	33.5	17.5	9.6	9	15.5	16	3.2	2.7	5
4	6	KQ2U04-06	10.4	12.8	35	18	10.4	9.7	16	17	4.2	4.2	6
6	8	KQ2U06-08	12.8	15.2	39.5	20	12.8	11.7	17	18.5	13.4	10.6	11
8	10	KQ2U08-10	15.2	18.5	45	24.5	15.2	13.7	18.5	21	25.6	17.7	18
10	12	KQ2U10-12	18.5	20.9	49	27.5	18.5	16.1	21	22	40	28.4	27
12	16	KQ2U12-16	26.5	26.5	66.5	41.5	26.5	23	22	25	57.4	45.4	100

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

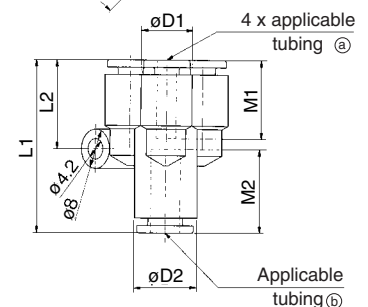
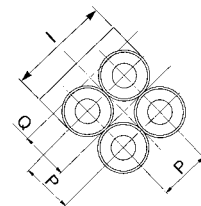


Different Diameter Double Union "Y": KQ2UD



Applicable tubing O.D. (mm)		Model	Note) $\phi D1$	Note) $\phi D2$	L1	L2	P	I	Q	M1	M2	Effective area (mm ²)		Mass (g)
(a)	(b)											Nylon	Urethane	
4	6	KQ2UD04-06	10.4	12.8	35.5	18.2	10.4	21	9.7	16	17	4.2	4.2	10
6	8	KQ2UD06-08	12.8	15.2	40.5	20.3	12.8	26	11.7	17	18.5	13.4	10.6	17

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

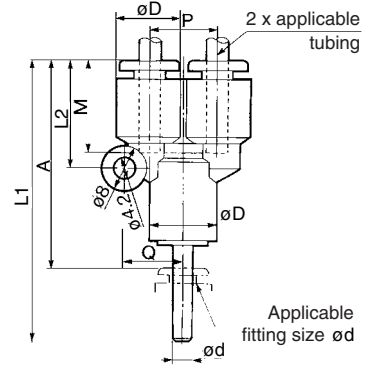


Plug-in “Y”: KQ2U



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	(1)		P	Q	A	M	Effective area (2) (mm ²)		Mass (g)	
			ϕD	L1					Nylon	Urethane		
3.2	3.2	KQ2U23-99	9.6	50	17.5	9.6	9	35	15.5	3.4	2.9	6
4	4	KQ2U04-99	10.4	51.5	18	10.4	9.7	35.5	16	4.2	4.2	12
6	6	KQ2U06-99	12.8	55.5	20	12.8	11.7	38.5	17	13.4	10.6	18
8	8	KQ2U08-99	15.2	64.5	24.5	15.2	13.7	46	18.5	25.6	17.7	21
10	10	KQ2U10-99	18.5	71.5	27.5	18.5	16.1	50.5	21	40	28.4	26
12	12	KQ2U12-99	20.9	75.5	30	20.9	18.1	53.5	22	57.4	45.4	32
16	16	KQ2U16-99	26.5	90	36.5	26.5	23	65	25	113	(96)	78

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

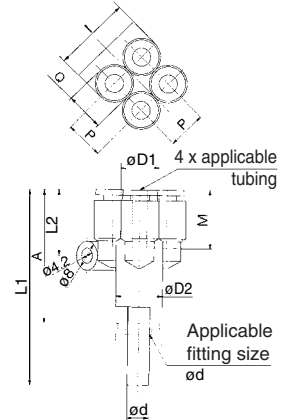


Double Plug-in “Y”: KQ2XD



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	Note)		L1	L2	I	Q	A	P	M	Effective area (mm ²)		Mass (g)
			$\phi D1$	$\phi D2$								Nylon	Urethane	
4	6	KQ2XD04-06	10.4	12.8	54	18.2	21	9.7	37	10.4	16	4.2	4.2	10
6	8	KQ2XD06-08	12.8	15.2	62.5	20.3	26	11.7	44	12.8	17	13.4	10.6	23

Note) $\phi D1$: Max. diameter

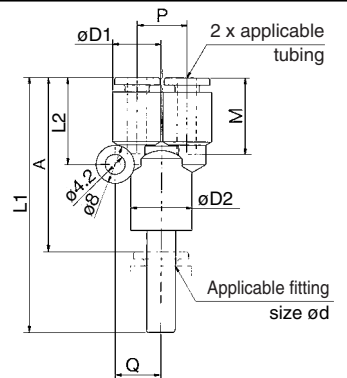


Different Diameter Plug-in “Y”: KQ2X



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	Note)		L1	L2	A	P	Q	M	Effective area (mm ²)		Mass (g)
			$\phi D1$	$\phi D2$							Nylon	Urethane	
4	6	KQ2X04-06	10.4	12.8	53.5	18.5	36.5	10.4	9.7	16	4.2	4.2	7
6	8	KQ2X06-08	12.8	15.2	61.5	20.5	43	12.8	11.7	17	13.4	10.6	18
8	10	KQ2X08-10	15.2	18.5	68.5	24.5	47.5	15.2	13.7	18.5	25.6	17.7	28
10	12	KQ2X10-12	18.5	20.9	73.5	27.5	51.5	18.5	16.1	21	40	28.4	42

Note) $\phi D1$: Max. diameter



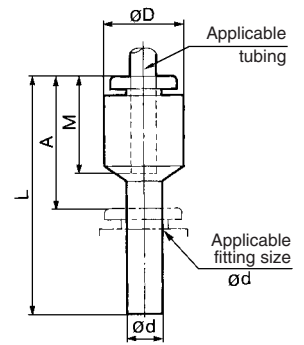
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Series KQ2

Plug-in Reducer: KQ2R



Applicable tubing O.D. (mm)	Applicable fitting size ϕd	Model	⁽¹⁾ ϕD	L	A	M	Effective area ⁽²⁾ (mm ²)		Mass (g)			
							Nylon	Urethane				
3.2	4	KQ2R23-04	9.6	33.5	18.5	15.5	3.4	2.9	2			
	6	KQ2R04-06	10.4	34.5	17.5	16	5.6	4	1.8			
8	KQ2R04-08	36.5		18	2.0							
4	10	KQ2R04-10	12.8	39.5	18.5	17	4	4	3.3			
	4	KQ2R06-04	12.8	37	21				2.5			
	8	KQ2R06-08	12.8	37	18.5				13.1	10.4	3	
10	KQ2R06-10	39.5		18.5	4.7							
6	12	KQ2R06-12	15.2	42	20	18.5	26.1	18.0	4.0			
	8	KQ2R08-10	15.2	41	20				18.5	26.1	18.0	4.6
	12	KQ2R08-12		42								20
8	10	KQ2R08-10	15.2	41	20	21	41.5	32.8	33			
	12	KQ2R08-12	18.5	44.5	23				(29.5)	42		
10	16	KQ2R10-16	20.9	50.5	25.5	22	58.3	(46.1)	37			
	12	KQ2R12-16	20.9	50.5	25.5				37			

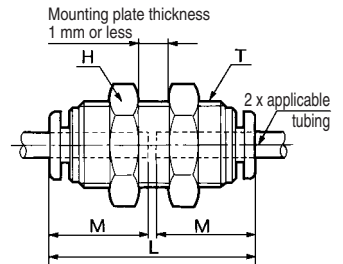


Note 1) ϕD : Max. diameter
Note 2) (): Values for soft nylon.

Bulkhead Union: KQ2E



Applicable tubing O.D. (mm)	Model	T (M)	H (width across flats)	L	Mounting hole	M	Effective area ^{Note)} (mm ²)		Mass (g)
							Nylon	Urethane	
3.2	KQ2E23-00	M12 x 1	14	31.5	13	15.5	3.4	2.9	26
4	KQ2E04-00	M12 x 1	14	32.5	13	16	5.6	4	26
6	KQ2E06-00	M14 x 1	17	34.5	15	17	13.1	10.4	33
8	KQ2E08-00	M16 x 1	19	38	17	18.5	26.1	18.0	52
10	KQ2E10-00	M20 x 1	24	42.5	21	21	41.5	29.5	70
12	KQ2E12-00	M22 x 1	27	44	23	22	58.3	46.1	90
16	KQ2E16-00	M28 x 1.5	32	51	29	25	113	(96)	115

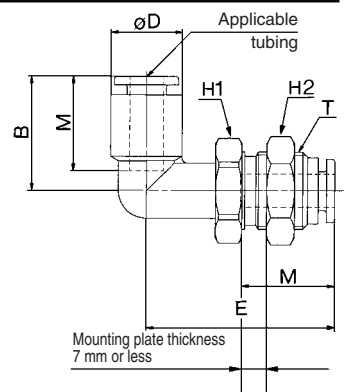


Note) (): Values for soft nylon.

Bulkhead Male Elbow: KQ2LE



Applicable tubing O.D. (mm)	Model	T (M)	H1 (width across flats)	H2 (width across flats)	B	E	^{Note)} ϕD	Mounting hole	M	Effective area ^{Note)} (mm ²)		Mass (g)
										Nylon	Urethane	
4	KQ2LE04-00	M12 x 1	14	14	18.5	31	10.4	13	16	4.2	4.2	18
6	KQ2LE06-00	M14 x 1	17	17	20.5	34	12.8	15	17	11.4	9.0	25
8	KQ2LE08-00	M16 x 1	17	19	23.5	38.5	15.2	17	18.5	21.6	14.9	33
10	KQ2LE10-00	M20 x 1	22	24	26.5	43.5	18.5	21	21	35.2	25.0	63
12	KQ2LE12-00	M22 x 1	24	27	28.5	45.5	20.9	23	22	50.2	39.7	77

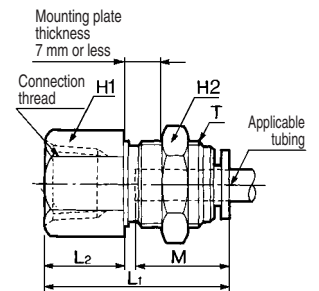


Note) ϕD : Max. diameter

Bulkhead Connector: KQ2E



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 ^{Note)} (mm ²)		Mass (g)
										Nylon	Urethane	
3.2	1/4	KQ2E23-02	M12 x 1	17	14	31.5	15	13	15.5	3.4	2.9	13
	1/8	KQ2E04-01	M12 x 1	14	14	27.5	11	13	16	5.6	4	16
1/4	KQ2E04-02	31		15		35						
4	1/8	KQ2E06-01	M14 x 1	17	17	28	11	15	17	13.1	10.4	30
	1/4	KQ2E06-02				31.5	15					34
	3/8	KQ2E06-03				33.5	17					34
6	1/8	KQ2E08-01	M16 x 1	17	19	27.5	7.5	17	18.5	26.1	18.0	28
	1/4	KQ2E08-02				33	13					33
	3/8	KQ2E08-03				35	15					34
8	1/4	KQ2E10-02	M20 x 1	22	24	34.5	12.5	21	21	41.5	29.5	53
	3/8	KQ2E10-03				36.5	14					67
	12	KQ2E12-03				37	14					92
12	3/8	KQ2E12-03	M22 x 1	24	27	41	18	23	22	58.3	46.1	59
	1/2	KQ2E12-04				41	18					59
16	3/8	KQ2E16-03	M28 x 1.5	30	32	40	14	29	25	96	(96)	127
	1/2	KQ2E16-04				44	18					113



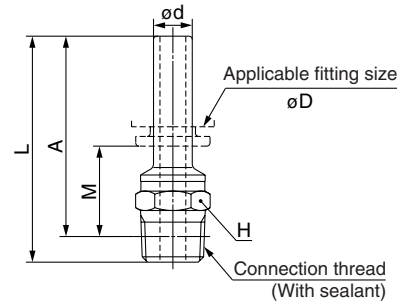
Note) (): Values for soft nylon.

Adaptor: KQ2N



Applicable fitting size ϕD	Connection thread R	Model	H (width across flats)	L	A*	M	ϕd	Mass (g)
4	M5 x 0.8	KQ2N04-M5	7	32	29	13	2.5	2
	1/8	KQ2N04-01S	10	33.1	30	14		6
6	M5 x 0.8	KQ2N06-M5	7	33	30	13	2.5	2
	1/8	KQ2N06-01S	10	34.1	31	14		5
	1/4	KQ2N06-02S	14	37	31.5	14.5		14
8	1/4	KQ2N08-02S	14	38.5	33	14.5	6	17
	3/8	KQ2N08-03S	17	39.9	34.5	16		30
10	3/8	KQ2N10-03S	17	44.9	39.5	18.5	7.5	31

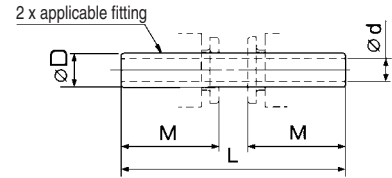
* Reference dimensions after R thread is screwed in.



Nipple: KQ2N



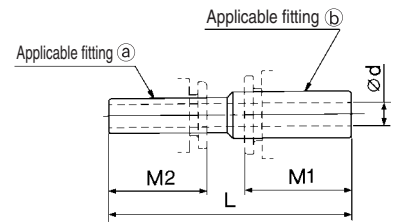
Applicable fitting ϕD	Model	L	M	ϕd	Mass (g)
4	KQ2N04-99	37	16	2.5	1
6	KQ2N06-99	39	17	4	2
8	KQ2N08-99	43	18.5	6	2
10	KQ2N10-99	49	21	7.5	4
12	KQ2N12-99	52	22	9	20.6
16	KQ2N16-99	57	25	13	31



Reducer Nipple: KQ2N



Applicable fitting		Model	L	M1	M2	ϕd	Mass (g)
(a)	(b)						
4	6	KQ2N04-06	38	17	16	2.5	2
6	8	KQ2N06-08	42	18.5	17	4	2
8	10	KQ2N08-10	47	21	18.5	6	2
10	12	KQ2N10-12	51	22	21	8	18.2
12	16	KQ2N12-16	55	25	22	9	29

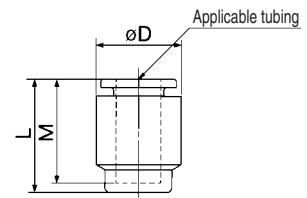


Tube Cap: KQ2C



Applicable tubing O.D. (mm)	Model	Note) ϕD	L	M	Mass (g)
4	KQ2C04-00	10.4	17	16	3
6	KQ2C06-00	12.8	18.5	17	3
8	KQ2C08-00	15.2	20.5	18.5	4
10	KQ2C10-00	18.5	23	21	6
12	KQ2C12-00	20.9	24	22	8
16	KQ2C16-00	26.5	28	25	13

Note) ϕD : Max. diameter

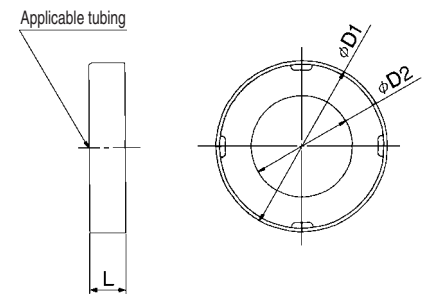


Color Cap: KQ2C



Applicable tubing O.D. (mm)	Model	$\phi D1$	$\phi D2$	L	Mass (g)	Application
4	KQ2C-04□	10.1	5.2	2.9	0.1	KQH, KQ2H04-M5, M6 KQS, KQ2S04-M5, M6
	KQ2C-04A-□	8.5	5	2.2	0.1	
4	KQ2C-04B-□	9.7	5	2.2	0.1	KQL, KQ2L04-M5, M6 KQT, KQ2T04-M5, M6 KQY, KQ2Y04-M5, M6
6	KQ2C-06□	12.1	7.2	2.9	0.1	KQH, KQ2H06-M5, M6 KQS, KQ2S06-M5, M6 KQL, KQ2L06-M5, M6 KQT, KQ2T06-M5, M6 KQY, KQ2Y06-M5, M6
6	KQ2C-06A-□	10.5	7	2.2	0.1	
6	KQ2C-06B-□	12.0	7	2.2	0.1	
8	KQ2C-08□	14.1	9.2	2.9	0.1	
10	KQ2C-10□	17.1	11.2		0.2	
12	KQ2C-12□	19.1	13.2		0.2	
16	KQ2C-16□	26.3	17.2	3.9	0.3	

□ → B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

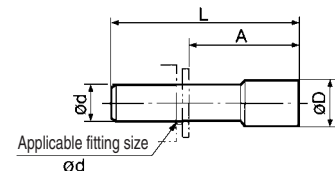


Plug: KQ2P, KQP



Applicable fitting size ϕd	Model Note)		ϕD	L	A	Mass (g)
3.2	KQ2P-23	KQP-23	5	31.5	16	1
4	KQ2P-04	KQP-04	6	32	16	1
6	KQ2P-06	KQP-06	8	35	18	1
8	KQ2P-08	KQP-08	10	39	20.5	2
10	KQ2P-10	KQP-10	12	43	22	3.5
12	KQ2P-12	KQP-12	14	45.5	24	5
16	KQ2P-16	KQP-16	20.9	47	22	8

Note) KQ2P (White), KQP (Blue)





Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

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

2 Other Specifications

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

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

Spare Parts

Description	Part no.	Applicable thread	Material	Applicable model
Gasket	M-5G2	M5	Stainless steel 304, NBR	—
	M-6G	M6		—
Pipe nut	KQ04-P01	—	—	KQ2E23-00, KQ2E04-00, KQ2E23-02 KQ2E04-01, KQ2E04-02, KQ2LE04-00
	KQ06-P01	—	—	KQ2E06-00, KQ2E06-01 KQ2E06-02, KQ2E06-03, KQ2LE06-00
	KQ08-P01	—	—	KQ2E08-00, KQ2E08-01 KQ2E08-02, KQ2E08-03, KQ2LE08-00
	KQ10-P01	—	—	KQ2E10-00, KQ2E10-02 KQ2E10-03, KQ2LE10-00
	KQ12-P01	—	—	KQ2E12-00, KQ2E12-03 KQ2E12-04, KQ2LE12-00
	KQ16-P01	—	—	KQ2E16-00 KQ2E16-03, KQ2E16-04

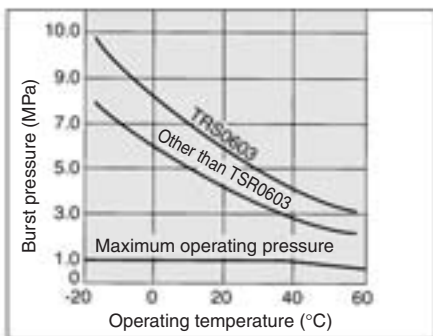
Flame Resistant (Equivalent to UL-94 Standard V-0) FR Soft Nylon Tubing Series TRS



Suitable for air and water piping in environments where sparks from spot welders, etc., may be a problem.

Flame resistant tubing

Burst Pressure Characteristics Curve and Operating Pressure



Model/Specifications

● — 20 m roll □ — 100 m reel

Model	TRS0603	TRS0805	TRS1065	TRS1208
Tubing O.D. (mm)	6	8	10	12
Tubing I.D. (mm)	3	5	6.5	8

Black (B)	●	●	●	●
White (W)	□	□	□	□
Red (R)	●	●	●	●
Blue (BU)	●	●	●	●
Green (G)	●	●	●	●

Fluid	Air/Water			
Max. operating pressure (at 20°C)	1.2 MPa			
Burst pressure	Refer to the burst pressure characteristics curve.			
Recommended fittings	FR one-touch fittings: Series KR-W2			
Minimum bending radius (mm)	17	19	27	32
Operating temperature	-20 to +60°C (Water: 0 to 60°C) (No freezing)			
Material	Flame resistant nylon (Equivalent to UL-94 standard V-0)			

⚠ Precautions

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

⚠ Caution

- Applicable for general industrial water. Please consult with SMC if using for the other kind of fluid. Also, the surge voltage pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, abnormal temperature rises caused by adiabatic compression may result in the burst of the tube.

How to Order

TRS1065 **B** - **100**

Tubing model

Length per roll

Symbol	Length
20	20 m roll
100	100 m reel

Color

Symbol	Color
B	Black
W	White
R	Red
BU	Blue
G	Green

K

M

H

KK

D

MS

LQ

MQR

T

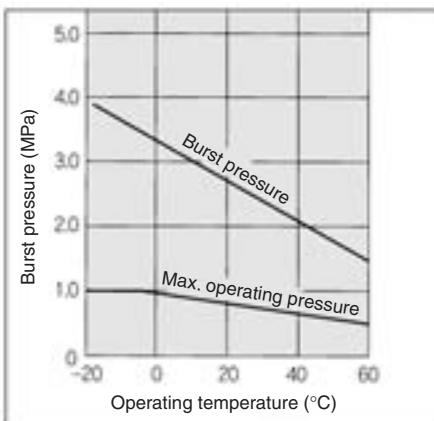
Polyurethane Tubing

Series TU/TIUB



For general pneumatic tubing
Flexible
Polyurethane tubing
Additional 21 new colors.

Burst Pressure Characteristics Curve and Operating Pressure

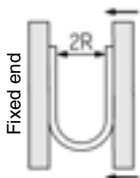


⚠ Precautions

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

⚠ Caution

- Applicable for general industrial water. Please consult with SMC if using for the other kind of fluid. Also, the surge voltage pressure must be under the maximum operating pressure. If the surge pressure exceeds the maximum operating pressure, it will result in damage to fittings and tubes.
- The value of the max. operating pressure is at a temperature of 20°C. Refer to the burst pressure characteristics curve for other temperatures. Furthermore, abnormal temperature rises caused by adiabatic compression may result in the burst of the tube.
- The value of the minimum bending radius is measured at the temperature of 20°C as shown in the figure below.



Bend the tube into U-form at a temperature of 20°C. Fix one end and close loop gradually. Measure 2R when the tube breaks or is crushed.

Model/Specifications

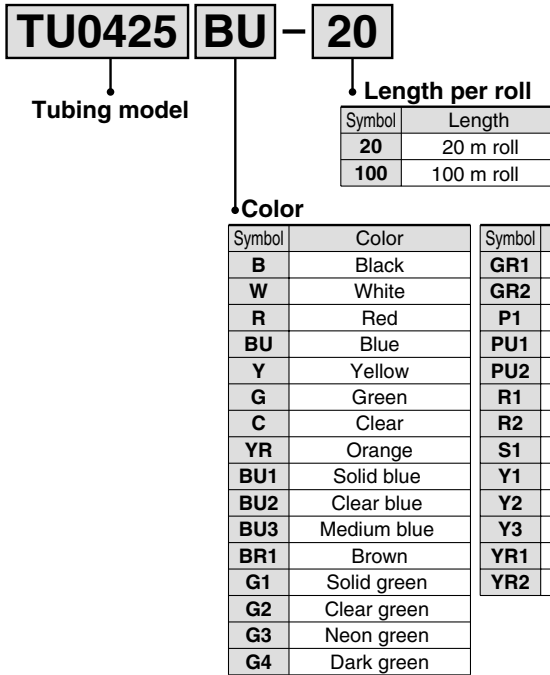
● — 20 m roll □ — 100 m roll
△ — Option ■ — Manufactured upon receipt of order (Please consult with SMC.)

Model	Tubing size											
	Metric size (Series TU)						Inch size (Series TIUB)					
	TU0212	TU0425	TU0604	TU0805	TU1065	TU1208	TU1610	TIUB01	TIUB05	TIUB07	TIUB11	TIUB13
Tubing O.D. (mm)	2	4	6	8	10	12	16	3.18	4.76	6.35	9.53	12.7
Tubing I.D. (mm)	1.2	2.5	4	5	6.5	8	10	2	3.18	4.23	6.35	8.46
Black (B)	●	●	●	●	●	●	●	●	●	●	●	●
White (W)	●	●	●	●	●	●	●	●	△	△	△	△
Red (R)	●	●	●	●	●	●	■	●	△	△	△	△
Blue (BU)	●	●	●	●	●	●	□	●	●	●	●	●
Yellow (Y)	●	●	●	●	●	●	■	●	△	△	△	△
Green (G)	●	●	●	●	●	●	■	●	△	△	△	△
Clear (C)	●	●	●	●	●	●	□	●	△	△	△	△
Orange (YR)	■	●	●	●	●	●	■	●	△	△	△	△
Solid blue (BU1)	■	●	●	●	●	●	■	●	■	■	■	■
Clear blue (BU2)	■	●	●	●	●	●	■	●	■	■	■	■
Medium blue (BU3)	■	●	●	●	●	●	■	●	■	■	■	■
Brown (BR1)	■	●	●	●	●	●	■	●	■	■	■	■
Solid green (G1)	■	●	●	●	●	●	■	●	■	■	■	■
Clear green (G2)	■	●	●	●	●	●	■	●	■	■	■	■
Neon green (G3)	■	●	●	●	●	●	■	●	■	■	■	■
Dark green (G4)	■	●	●	●	●	●	■	●	■	■	■	■
Gray (GR1)	■	●	●	●	●	●	■	●	■	■	■	■
Light gray (GR2)	■	●	●	●	●	●	■	●	■	■	■	■
Neon pink (P1)	■	●	●	●	●	●	■	●	■	■	■	■
Solid purple (PU1)	■	●	●	●	●	●	■	●	■	■	■	■
Clear purple (PU2)	■	●	●	●	●	●	■	●	■	■	■	■
Solid red (R1)	■	●	●	●	●	●	■	●	■	■	■	■
Clear red (R2)	■	●	●	●	●	●	■	●	■	■	■	■
Silver (S1)	■	●	●	●	●	●	■	●	■	■	■	■
Solid yellow (Y1)	■	●	●	●	●	●	■	●	■	■	■	■
Clear yellow (Y2)	■	●	●	●	●	●	■	●	■	■	■	■
Neon yellow (Y3)	■	●	●	●	●	●	■	●	■	■	■	■
Clear orange (YR1)	■	●	●	●	●	●	■	●	■	■	■	■
Neon orange (YR2)	■	●	●	●	●	●	■	●	■	■	■	■

Nominal size (inch)	
5/32"	5/16"
1/8"	3/16"
1/4"	3/8"
1/2"	

Fluid	Air/Water											
Max. operating pressure at 20°C	0.8 MPa											
Burst pressure	Refer to the burst pressure characteristics curve.											
Applicable fittings	One-touch fittings, Insert fittings, Self-align fittings, Miniature fittings											
Min. bending radius (mm)	4	10	15	20	27	35	45	10	15	23	27	35
Operating temperature	-20 to +60°C (Water: 0 to 40°C) (No freezing)											
Material	Polyurethane											

How to Order



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

Made to Order

(Please contact SMC for specifications in detail, dimensions, delivery and specifications other than those mentioned above.)

- 100 m reel** Metric size and Inch size: Suffix "-X3" to the end of part number. Ex.) TU0425R-100-X3
- Longer length reel** Metric size: Suffix "-X3" to the end of part number. Ex.) TU0425G-500-X3
- 20 m roll** Inch size: Suffix "-X4" to the end of part number. Ex.) TIUB07W-20-X4

Made to Order Availability

Part no.	Length \ Model	TU0425 *	TU0604 *	TU0805 *	TU1065 *	TU1208 *	TIUB01 *	TIUB05 *	TIUB07 *	TIUB11 *	TIUB13 *	Color
X3	100 m reel	○	○	○	○	○	○	○	○	○	○	Black, White, Red, Blue, Yellow, Green, Clear, Orange
	200 m reel			○								
	400 m reel		○									
	500 m reel	○										
X4	20 m roll							○	○	○	○	Red, White, Yellow, Green, Clear, Orange

FEP Tubing (Fluoropolymer)

Metric Size

Series TH



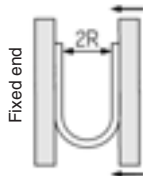
Heat-resistant: 200°C

Varies depending on the operating pressure. Refer to the maximum operating pressure graph (pages 390 and 391).

Compatible with the Food Sanitation Law

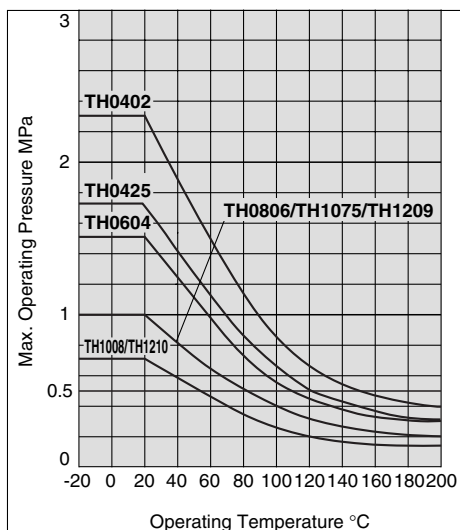
- Compatible with the test conforming to the Food Sanitation Law based on the 370th notice given by the Ministry of Health and Welfare in 1959.
- Compatible with the §177-1550 dissolution test approved by FDA (Food and Drug Administration).

How to measure the minimum bending radius.



At a temperature of 20°C, bend the tubing into a U shape. Fix one end and gradually move the other end closer. Measure 2R at the point where the outside diameter's rate of change is 5%.

Max. Operating Pressure



Note) The maximum operating pressure varies dependent on the I.D. bore size even if the O.D. is the same.

Series

●-20 m roll □-100 m roll

		Metric size							
Model		TH0402	TH0425	TH0604	TH0806	TH1075	TH1008	TH1209	TH1210
Tubing O.D. (mm)		4	4	6	8	10	10	12	12
Tubing I.D. (mm)		2	2.5	4	6	7.5	8	9	10

Color	Symbol	TH0402	TH0425	TH0604	TH0806	TH1075	TH1008	TH1209	TH1210
Translucent	N	●	□	□	□	●	□	□	●
Red (Translucent)	R	●	●	●	●	●	●	●	●
Blue (Translucent)	BU	●	●	●	●	●	●	●	●
Black (Opaque)	B	●	●	●	●	●	●	●	●

Specifications

Fluid	Air, Water ^{Note 1)} , Inert gas							
Applicable fittings ^{Note 2)}	One-touch fittings, Insert fittings Fluoropolymer fittings: Series LQ1 Miniature fittings: Series M, MS (Hose nipple type)							
Max. operating pressure (MPa)	20°C	2.3	1.7	1.5	1	0.7	1	0.7
	100°C	0.85	0.6	0.55	0.4	0.25	0.4	0.25
	200°C	0.4	0.3	0.3	0.2	0.1	0.2	0.1
Refer to below "Max. Operating Pressure."								
Min. bending radius (mm) ^{Note 3)}		15	20	35	60	95	100	130
Operating temperature	Air, Inert gas: -20 to 200°C Water: 0 to 100°C (No freezing)							
Material	FEP (Fluorinated Ethylene Propylene Resin)							

Note 1) When using a fluid in liquid form, the surge pressure must not exceed the maximum operating pressure. A surge pressure higher than the maximum operating pressure can cause breakage of the fittings, or rupture of the tubing. Furthermore, an abnormal temperature increase due to adiabatic compression can also result in ruptured tubing.

Note 2) Do not use in locations where the FEP tubing will move.

Be sure to operate under the maximum operating pressure conditions using the lower maximum operating specification of either the tubing or fittings.

After long term use or under high temperatures, some fittings leakage may occur due to material deterioration with age. Perform periodic inspections, and if any leakage is detected, replace with a new product immediately. When the insert and miniature fittings are used over extended periods of time, it may cause leakage due to the material deterioration of age. In such a case, give an additional tightening to the tube connection part. If leakage still occurs after giving an additional tightening, replace the fitting with a new product.

Note 3) Minimum bending radius is measured as shown left as representative values.

Allow extra length when piping since the tubing may crush if bent more than the min. bending radius.

How to Order

Metric size

TH0604 N - 20

Indication of tubing model ●

Color indication ●

Symbol	Color
N	Translucent
R	Red (Translucent)
BU	Blue (Translucent)
B	Black (Opaque)

● Length per roll

Symbol	Roll size
20	20 m roll
100 ^{Note)}	100 m roll

Note) 100 m roll is available with translucent (color indication: N) only.

FEP Tubing (Fluoropolymer)

Inch Size

Series *TIH*



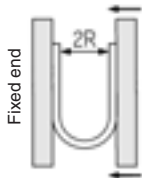
Heat-resistant: 200°C

Varies depending on the operating pressure. Refer to the maximum operating pressure graph (pages 390 and 391).

Compatible with the Food Sanitation Law

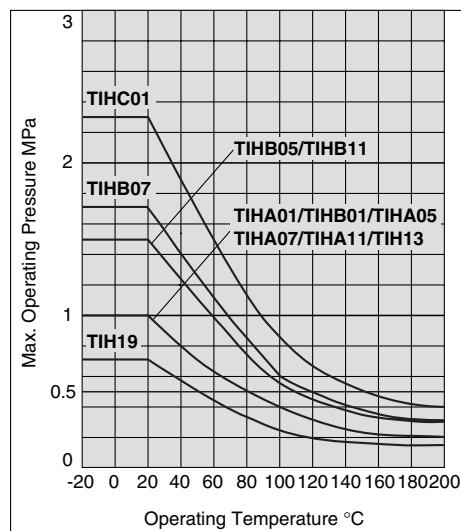
- Compatible with the test conforming to the Food Sanitation Law based on the 370th notice given by the Ministry of Health and Welfare in 1959.
- Compatible with the §177-1550 dissolution test approved by FDA (Food and Drug Administration).

How to measure the minimum bending radius.



At a temperature of 20°C, bend the tubing into a U shape. Fix one end and gradually move the other end closer. Measure 2R at the point where the outside diameter's rate of change is 5%.

Max. Operating Pressure



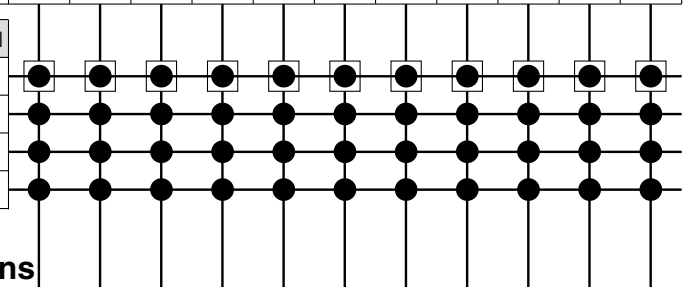
Note) The maximum operating pressure varies dependent on the I.D. bore size even if the O.D. is the same.

Series

● 50ft (16m) roll □ 100ft (33m) roll

Model		Inch size										
Tubing O.D.		TIHA01	TIHB01	TIHC01	TIHA05	TIHB05	TIHA07	TIHB07	TIHA11	TIHB11	TIH13	TIH19
Tubing O.D.	inch	1/8"		3/16"		1/4"		3/8"		1/2"	3/4"	
	mm	3.18		4.75		6.35		9.53		12.7	19.05	
Tubing I.D.	inch	0.093"	0.086"	0.065"	0.137"	0.124" (1/8")	0.18"	0.156" (5/32")	0.275" (1/4")	0.25" (1/4")	0.374" (3/8")	0.624" (5/8")
	mm	2.36	2.18	1.65	3.48	3.15	4.57	3.95	6.99	6.33	9.5	15.85

Color	Symbol
Translucent	N
Red (Translucent)	R
Blue (Translucent)	BU
Black (Opaque)	B



Specifications

Fluid	Air, Water ^{Note 1)} , Inert gas										
Applicable fittings ^{Note 2)}	One-touch fittings, Fluoropolymer fittings: Series LQ1										
Max. operating pressure (MPa)	20°C	1	2.3	1	1.5	1	1.7	1	1.5	1	0.7
	100°C	0.4	0.85	0.4	0.55	0.4	0.6	0.4	0.55	0.4	0.25
	200°C	0.2	0.4	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.1
Refer to below "Max. Operating Pressure."											
Min. bending radius (mm) ^{Note 3)}	25	20	10	35	25	55	35	85	60	95	220
Operating temperature	Air, Inert gas: -20 to 200°C Water: 0 to 100°C (No freezing)										
Material	FEP (Fluorinated Ethylene Propylene Resin)										

Note 1) When using a fluid in liquid form, the surge pressure must not exceed the maximum operating pressure. A surge pressure higher than the maximum operating pressure can cause breakage of the fittings, or rupture of the tubing. Furthermore, an abnormal temperature increase due to adiabatic compression can also result in ruptured tubing.

Note 2) Do not use in locations where the FEP tubing will move.

Be sure to operate under the maximum operating pressure conditions using the lower maximum operating specification of either the tubing or fittings.

After long term use or under high temperatures, some fittings leakage may occur due to material deterioration with age. Perform periodic inspections, and if any leakage is detected, replace with a new product immediately. When the insert and miniature fittings are used over extended periods of time, it may cause leakage due to the material deterioration of age. In such a case, give an additional tightening to the tube connection part. If leakage still occurs after giving an additional tightening, replace the fitting with a new product.

Note 3) Minimum bending radius is measured as shown left as representative values.

Allow extra length when piping since the tubing may crush if bent more than the min. bending radius.

How to Order

Inch size

TIHA01 **N** - **16**

Indication of tubing model ●

Color indication ●

Symbol	Color
N	Translucent
R	Red (Translucent)
BU	Blue (Translucent)
B	Black (Opaque)

Length per roll ●

Symbol	Roll size
16	50ft (16m) roll
33 ^{Note)}	100ft (33m) roll

Note) 100ft (33m) roll is available with translucent (color indication: N) only.



Chemical Resistance of the Fluoropolymer FEP Material

Chemicals in this table are inactive against FEP material ^{Note 1)}, however physical properties may be effected by temperature or pressure change.

Please make sure that operating conditions do not cause problems since the use of FEP tubing under chemical environment is unsecured.

2-nitro-2-methyl propanol	Chloroform	Nitromethane
2-nitrobutanol	Paraffinum liquidum	Perchloroethylene
Pentabasic benzamide	Allyl acetate	Perphloroxylene
N-butylamine	Ethyl acetate	Unsymmetrical dimethylhydrazine
N-octadecanol	Potassium	Hydrazine
N-butyl acetate	Butyl acetate	Pinene
O-cresol	Sodium hypochlorite	Piperidine
Di-isobutyl adipate	Carbon tetrachloride	Glacial acetic acid (Acetic acid)
Acetophenone	Dioxane	Pyridine
Acetone	Cyclohexanone	Phenol
Aniline	Cyclohexane	Phthalic acid
Abietic acid	Dimethyl ether	Dybutyl phthalate
Sulfuric chloride	Dimethylsulfoxide	Dimethyl phthalate
Isooctane	Dimethylformamide	Hydrofluoric acid
Liquid ammonia	Bromine	Naphthalene fluoride
Ethyl alcohol	Deionized water	Nitrobenzene fluoride
Ethyl ether	Nitric acid	Furan
Ethylene glycol	Mercury	Hexachlorethane
Ethylenediamine	Ammonium hydroxide	Hexane
Zinc chloride	Potassium hydroxide	Ethyl hexanoate
Aluminum chloride	Sodium hydroxide	Phenylcarbinol
Ammonium chloride	Cetane	Benzaldehyde
Calcium chloride	Soap, detergent	Benzonitrile
Sulfuric chloride	Dibutyl sebacate	Borax
Iron chloride (III)	Diethyl carbonate	Boric acid
Benzoyl chloride	Tetrachloroethylene	Formic aldehyde (Formalin)
Magnesium chloride	Tetrahydrofuran	Acrylic anhydride
Hydrochloric acid	Tetrabromoethane	Acetic anhydride
Chlorine (absolute)	Triethanolamine	Methacrylic acid
Aqua regia	Trichloroethylene	Allyl methacrylate
Ozone	Trichloroacetic acid	Vinyl methacrylate
Hydrogen peroxide	Toluene	Methyl alcohol
Sodium peroxide	Naphtha	Methyl ethyl ketone
Gasoline	Naphthalene	Methylene chloride
Permanganate	Naphthol	Sulphuric acid
Formic acid	Lead	Phosphoric acid
Xylene	Carbon dioxide	Iron phosphate (III)
Chromic acid	Nitrogen dioxide	Tri-n-butyl phosphate
Chlorosulfonic acid	Nitrobenzene	Tricresyl phosphate

Note 1) "Inactive in chemistry terminology" means - not to cause any chemical reaction.

Reference cited: Teflon[®], the fluoropolymer handbook, Manual for the chemical applications of Teflon[®]. Du Pont-Mitsui Fluorochemicals Co., Ltd.

Teflon[®] is a registered trademark for the fluoropolymer produced by E.I du Pont de Nemours & Company (Inc.) and Du Pont-Mitsui Fluorochemicals Co., Ltd.

Precautions

Be sure to read before handling. Refer to front matters 58 and 59 for Safety Instructions, pages 13 to 16 for Fittings and Tubing Precautions and pages 314, 315, 351 and 352 for Fluoropolymer Fittings Precautions.

Inch-size Rectangular Multi-connector Series *KDM*

No. of Connecting Tubes: 10, 20

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

Substantial reduction in mounting space

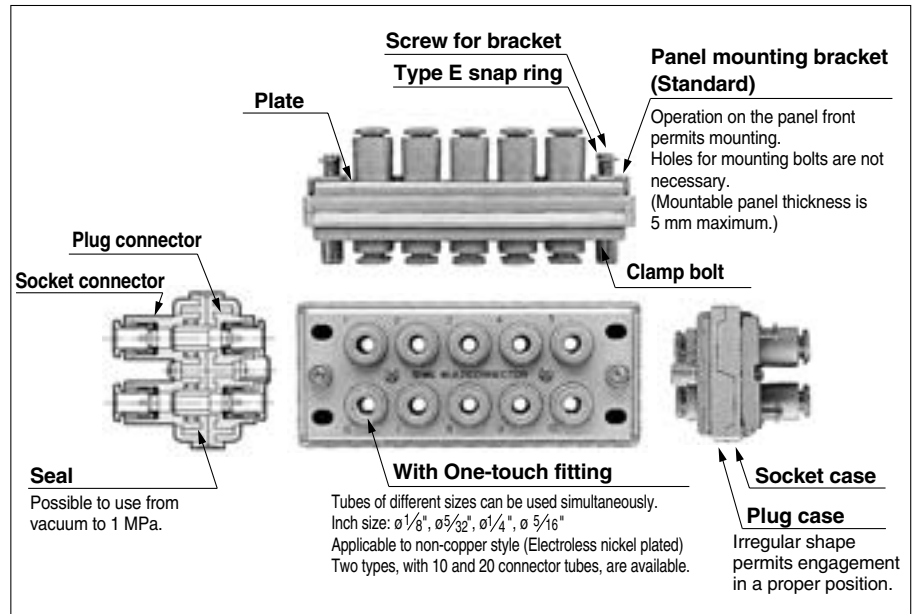
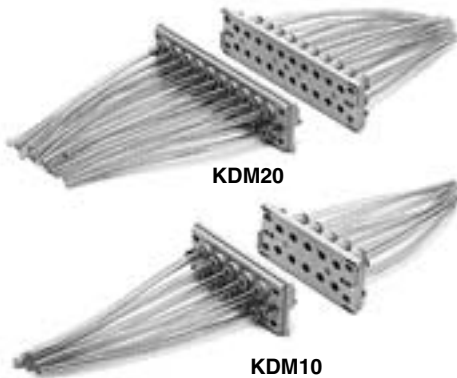
In comparison with a model requiring many union joints for panels and partitions, this model needs only a small space.

One-touch connection/disconnection of connector

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

One-touch tube connection

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



Model

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

Applicable Tubing

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



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

Specifications

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

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

Principal Parts Material

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

Model

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

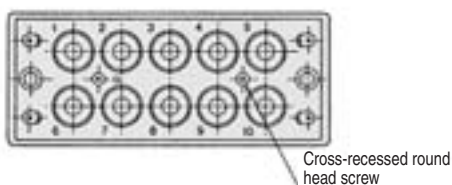
Mixed Sizes of Plug Connectors and Socket Connectors

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

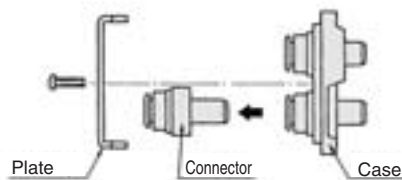
Model

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

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



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



Cross-recessed round head screw

Shift the bolt to the outside and tighten it.

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



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

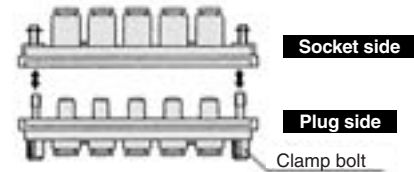


How to Use

⚠ Caution

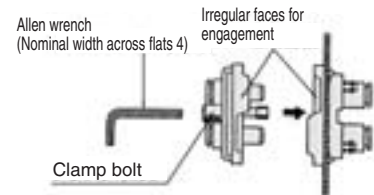
Separation

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



Connection

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

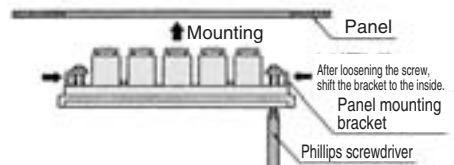


Panel mounting

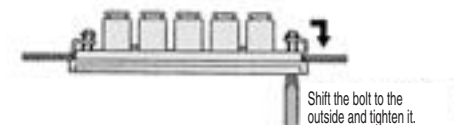
1. Loosen (4) screws for bracket on the socket side using a Phillips screwdriver (JIS nominal No. 2) until the bracket touches the stop ring.



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



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



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

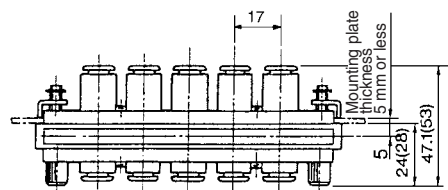
- K
- M
- H
- KK
- D
- MS
- LQ
- MQR
- T

Series KDM

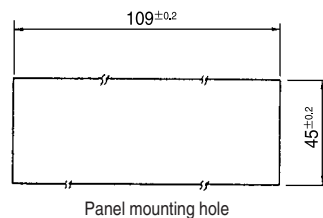
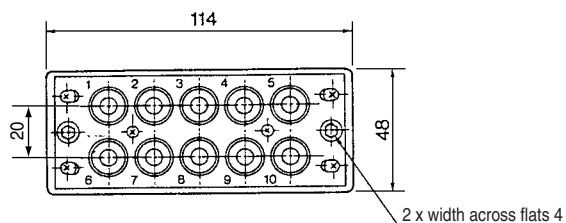


Dimensions

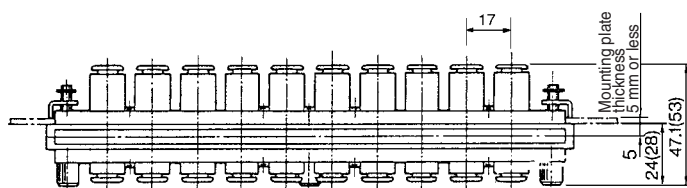
KDM10



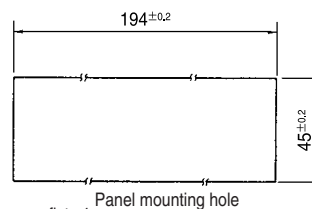
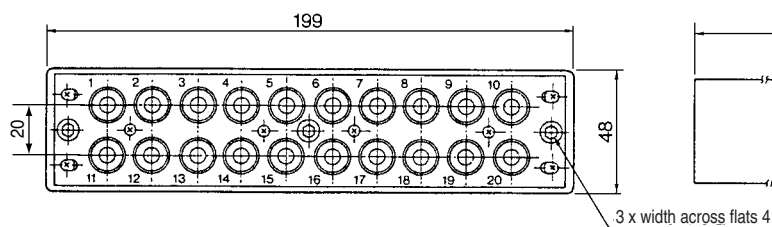
(): Dimensions for KDM10-09



KDM20



(): Dimensions for KDM20-09



Handling of One-touch Fittings

⚠ Caution

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



Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

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

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

Example) **KDM10-03-X17**

2 Other Specifications

Symbol	Specifications
X12	Lubricant: White Vaseline Release button color: White

3 Mixed Tubing Size Type

■ Mixed Tubing Size Type

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

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

Rectangular Multi-connector Series *KDM*

No. of Connecting Tubes: 10, 20

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

Substantial reduction in mounting space

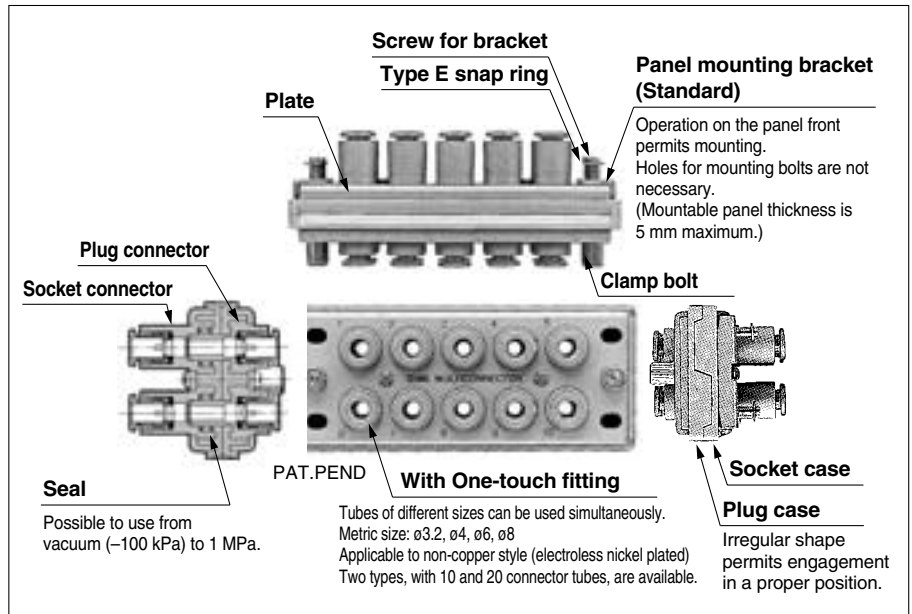
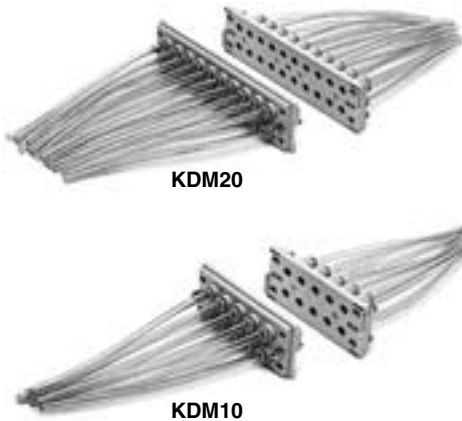
In comparison with a model requiring many union joints for panels and partitions, this model needs only a small space.

One-touch connection/disconnection of connector

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

One-touch tube connection

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



Model

No. of connecting tubes	Tubing O.D.	Model	Mass (g)	Color of release button
10	ø3.2	KDM10-23	300	Blue
	ø4	KDM10-04		
	ø6	KDM10-06		
	ø8	KDM10-08	520	
20	ø3.2	KDM20-23	520	
	ø4	KDM20-04		
	ø6	KDM20-06		
	ø8	KDM20-08	950	

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø3.2, ø4, ø6, ø8

Specifications

Fluid	Air
Operating pressure range ^{Note)}	-100 kPa to 1 MPa
Proof pressure	1.5 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)

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

⚠ Caution

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

Principal Parts Material

Plug case, Socket case		POM
Plate, Bracket		SPCC plated
Plug connector, Socket connector	Body	PBT, C3604 Electroless nickel plated (ø8)
	Chuck	Stainless steel 304
	Guide	Stainless steel 304, C3604 Electroless nickel plated, PBT (ø8)
	Collet, Release button	POM
	Seal	NBR
Clamp bolt, Screw for bracket, Cross-recessed head machine screw		SWRM (Nickel plated)
Type E snap ring		Stainless steel 304

Model

No. of connection tubes	Tubing O.D.	Model		Color of release button
		Plug	Socket	
10	ø3.2	KDM10P-23	KDM10S-23	Blue
	ø4	KDM10P-04	KDM10S-04	
	ø6	KDM10P-06	KDM10S-06	
	ø8	KDM10P-08	KDM10S-08	
20	ø3.2	KDM20P-23	KDM20S-23	
	ø4	KDM20P-04	KDM20S-04	
	ø6	KDM20P-06	KDM20S-06	
	ø8	KDM20P-08	KDM20S-08	

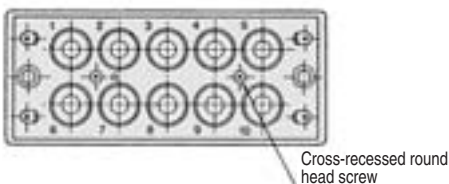
Mixed Sizes of Plug Connectors and Socket Connectors

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

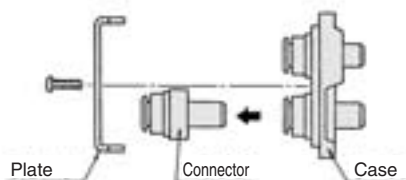
Model

Connector	Tubing O.D.	Model	Color of release button
Plug connector	ø3.2	KDMP-23	Blue
	ø4	KDMP-04	
	ø6	KDMP-06	
	ø8	KDMP-08	
Socket connector (with seal)	ø3.2	KDMS-23	
	ø4	KDMS-04	
	ø6	KDMS-06	
	ø8	KDMS-08	

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



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

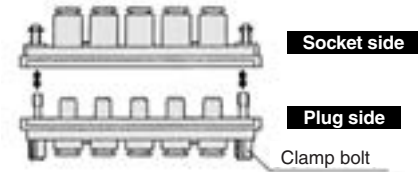


How to Use

⚠ Caution

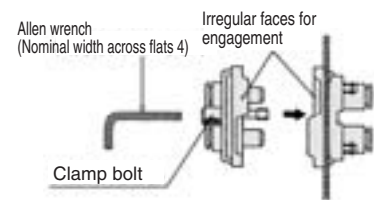
Separation

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



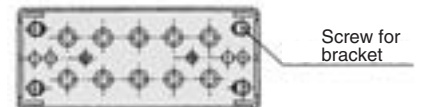
Connection

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

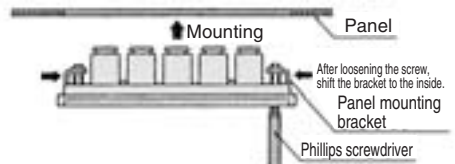


Panel mounting

1. Loosen (4) screws for bracket on the socket side using a Phillips screwdriver until the bracket touches the stop ring.



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



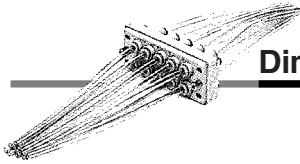
3. After shifting the bolt for bracket to the outside, tighten the bolt by a Phillips screwdriver to fix the socket case.



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

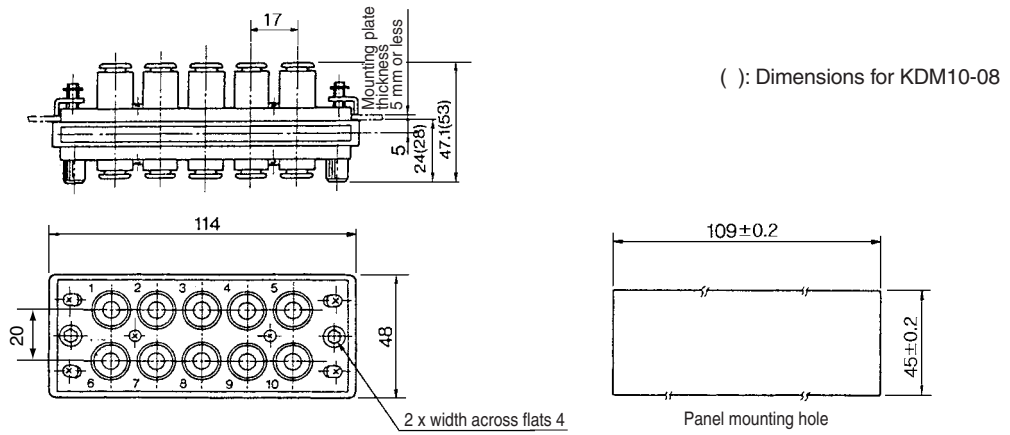
K □
M □
H □
KK
D □
MS
LQ
MQR
T □

Series KDM

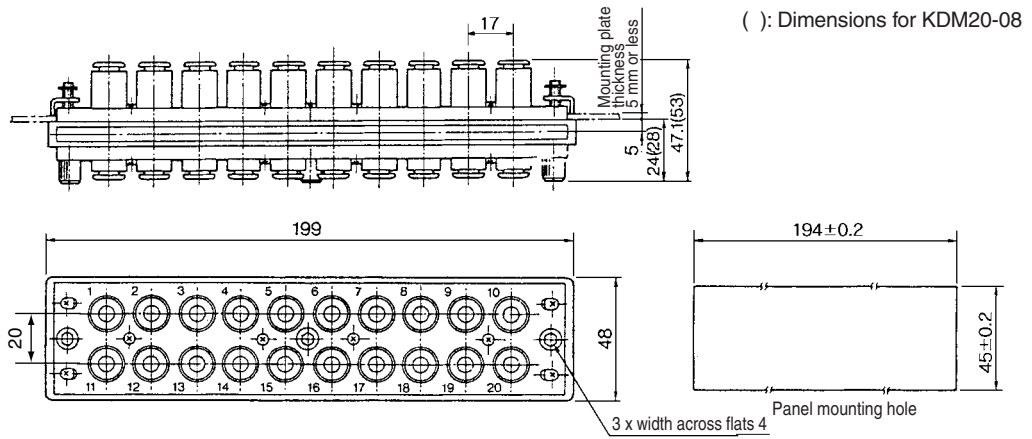


Dimensions

KDM10



KDM20





Please contact SMC for detailed dimensions, specifications, and delivery.

1 Grease-free Specifications

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

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

Example) **KDM10-04-X17**

K

M

H

KK

D

MS

LQ

MQR

T

2 Other Specifications

Symbol	Specifications
X12	Lubricant: White Vaseline Release button color: White

3 Mixed Tubing Size Type and Other Tubing Size

■ Mixed Tubing Size Type

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

■ Other Tubing Size

Tubing size O.D.	Connection no.	Part no.
ø10	6	IN-254-52
ø12	6	IN-254-53