

Metal One-touch Fittings

KQB2 Series

Compact and Light



Approx. **30%**

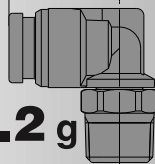
* Comparison with KQBL06-01S



New

KQB2L06-01S

15.9 mm

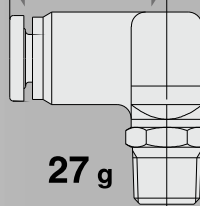


RoHS

Current model

KQBL06-01S

22.1 mm



27 g



Approx. **62%**

* Comparison with KQBL06-01S



10.2 g

Fluid temperature

-5 to 150°C

Connection thread

M, R, Rc, UNF, NPT, G

○ Electroless nickel plated
(Brass parts)

○ Grease-free

Applicable tubing material

FEP • PFA • Nylon • Soft nylon
Polyurethane • Polyolefin

Variations

		Applicable tubing O.D. (mm)						
		ø3.2	ø4	ø6	ø8	ø10	ø12	ø16
Connection thread	M5	●	●	●				
	R1/8	●	●	●	●	●		
	G1/8	●	●	●	●	●		
	R1/4	●	●	●	●	●	●	
	G1/4	●	●	●	●	●	●	
	R3/8			●	●	●	●	●
	G3/8			●	●	●	●	●
	R1/2				●	●	●	●
	G1/2				●	●	●	●
	No thread	●	●	●	●	●	●	●
		Applicable tubing O.D. (inch)						
		ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø3/8"	ø1/2"	
Connection thread	10-32 UNF	●	●	●				
	NPT1/8	●	●	●	●	●		
	NPT1/4	●	●	●	●	●	●	
	NPT3/8			●	●	●	●	●
	NPT1/2				●	●	●	●
	No thread	●	●	●	●	●	●	●



KQ2

KQB2

KS

KX

KM

KF

M

H/DL

L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

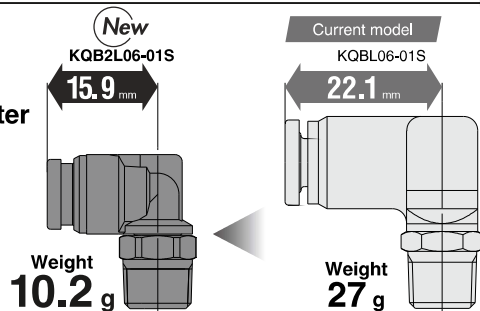
Compact and light

Dimensions: Approx. 30% shorter

* Comparison with KQBL06-01S

Weight: Approx. 62% lighter

* Comparison with KQBL06-01S



○ Inch size x UNF/NPT thread,
Metric size x G thread

○ Applicable tubing size
Ø3.2 to Ø16, Ø1/8" to Ø1/2"

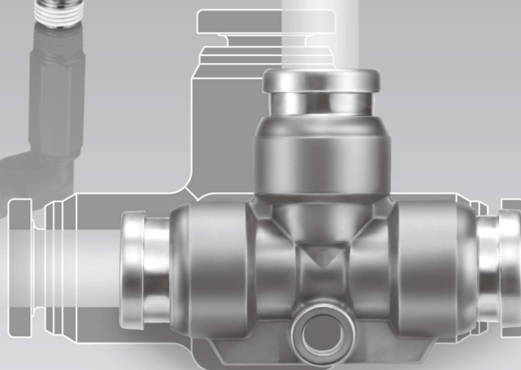
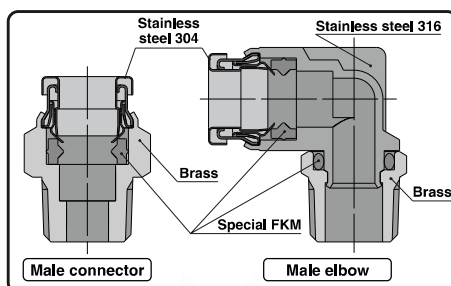
○ Connection thread: M, R, Rc, UNF, NPT, G

○ Fluid temperature: -5 to 150°C

○ Grease-free

○ Applicable tubing material
FEP • PFA • Nylon • Soft nylon
Polyurethane • Polyolefin

○ Electroless nickel plated
(Brass parts)



Metal One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: G*

KQB2 Series

* Conforming to ISO16030

RoHS



Applicable Tubing

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

Specifications

Fluid	Air, Water <small>Note 2)</small>
Operating pressure range <small>Note 1)</small>	-100 kPa to 1 MPa <small>Note 3)</small>
Proof pressure	3.0 MPa
Ambient and fluid temperature <small>Note 4)</small>	-5 to 150°C (No freezing) <small>Note 3)</small>
Lubricant	Grease-free specification
Seal on the threads	O-ring seal

Note 1) Avoid using in a vacuum holding application such as a leak tester, since there is leakage.

Note 2) Deionized water is not recommended for use as it may affect the material used in the fittings.

In addition, it is known to degrade the water quality.

Note 3) Check the operating pressure range and operating temperature range of the tubing.

Note 4) It is recommended that you use the inner sleeve in the following conditions:

- When using in an environment where the fluid temperature changes drastically.
- When using at a high temperature.

* Temperature Condition of Mounting the Inner Sleeve

Tubing	Temperature
FEP tubing/TH Series	80°C or more
Super PFA tubing/TL Series	120°C or more

Spare Parts

Description	Tubing O.D.	Part no.	Material
Bulkhead nut	ø4	KQB223-P01	C3604 (Electroless nickel plated)
	ø6	KQB206-P01	
	ø8	KQB208-P01	
	ø10	KQB210-P01	
	ø12	KQB212-P01	
	ø16	KQB216-P01	

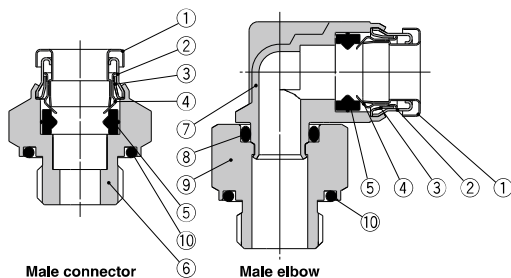
Description	Thread size	Part no.	Material
G thread O-ring	G1/8	KQB2-G01	Special FKM (Fluoro coated)
	G1/4	KQB2-G02	
	G3/8	KQB2-G03	
	G1/2	KQB2-G04	

Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material			Applicable inner sleeve	
	TUS (Soft polyurethane)	TH/TH (FEP)	TL/TIL (Super PFA)	Part no.	Length
ø4	—	TH0402	—	TJ-0402	18
	TUS0425	TH0425	—	TJ-0425	18
ø6	—	—	TL0403	TJ-0403	18
	TUS0604	TH0604	TL0604	TJ-0604	19
ø8	—	—	—	TJ-0805	20.5
	TUS0805	—	—	TJ-0805	20.5
ø10	—	TH0806	TL0806	TJ-0806	20.5
	TUS1065	—	—	TJ-1065	23
ø12	—	TH1075	—	TJ-1075	23
	—	TH1008	TL1008	TJ-1008	23
ø16	TUS1208	—	—	TJ-1008	24
	—	TH1209	—	TJ-1209	24
ø20	—	TH1210	TL1210	TJ-1210	24
	—	—	—	—	—

* C2700 + Electroless nickel plated is used for the TJ series.

Construction



Component Parts

No.	Description	Material
1	Release button	Stainless steel 304
2	Guide 1	Stainless steel 304
3	Guide 2	Stainless steel 304
4	Chuck	Stainless steel 304
5	Seal	Special FKM (Fluoro coated)
6	Male connector body	C3604 (Electroless nickel plated)
7	Male elbow body	Stainless steel 316
8	O-ring	Special FKM (Fluoro coated)
9	Stud	C3604 (Electroless nickel plated)
10	G thread O-ring	Special FKM (Fluoro coated)



KQB2 Series

Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Male Connector: KQB2H

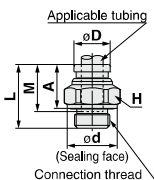


Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flat)	Note 1) øD	ød	L	A	M	Note 2) Effective area (mm²)	Weight (g)
ø4	1/8	KQB2H04-G01	14	8.7	13.8	16.6	11.1	12.6	5.6	9.2
	1/4	KQB2H04-G02	19		17.8	20.6	14.1			23.6
ø6	1/8	KQB2H06-G01	14	11.1	13.8	17.6	12.1	13.6	13.1	8.9
	1/4	KQB2H06-G02	19		17.8	20.5	14			21.6
	3/8	KQB2H06-G03	22		21.8	23.4	15.9			38.3
ø8	1/8	KQB2H08-G01	14	13.4	13.8	23.9	18.4	16.1	26.1	13.2
	1/4	KQB2H08-G02	19		17.8	21.2	14.7			19.1
	3/8	KQB2H08-G03	22		21.8	24	16.5			35.2
ø10	1/8	KQB2H10-G01	17	16.4	13.8	25.1	19.6	17	41.5	19.9
	1/4	KQB2H10-G02	19		17.8	24.9	18.4			24.8
	3/8	KQB2H10-G03	22		21.8	23.3	15.8			30.9
	1/2	KQB2H10-G04	27		26.5	27.7	18.7			64.4
	1/4	KQB2H12-G02	19		17.8	27.7	21.2			26.3
ø12	3/8	KQB2H12-G03	22	18.5	21.8	23.5	16	18.6	58.3	25.5
	1/2	KQB2H12-G04	27		26.5	27.9	18.9			58
	3/8	KQB2H16-G03	24	24.6	21.8	31.3	23.8	20.8	81	44.5
ø16	1/2	KQB2H16-G04	27		26.5	27.3	18.3			113

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



Hexagon Socket Head Male Connector: KQB2S

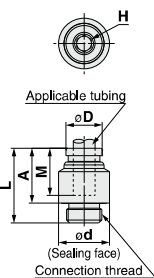


Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flat)	Note 1) øD	ød	L	A	M	Note 2) Effective area (mm²)	Weight (g)
ø4	1/8	KQB2S04-G01	3	14	14	20.4	14.9	12.6	4.1	13.5
	1/8	KQB2S06-G01	4	14	14	20.6	15.1	13.6	10	12.1
ø6	1/4	KQB2S06-G02		18	18		14.1		10.7	19.9
	1/8	KQB2S08-G01	5	14	14	23.9	18.4	16.1	17.2	12.5
ø8	1/4	KQB2S08-G02	6	18	18	22.9	16.4		23.3	20.1
	3/8	KQB2S08-G03		22	22	23.1	15.6			31.1
ø10	1/8	KQB2S10-G01	5	17	14	25.1	19.6	17	17.2	18.5
	1/4	KQB2S10-G02	8	18	18	24.9	18.4		39	20.4
	3/8	KQB2S10-G03		22	22	24	16.5			31.2
	1/2	KQB2S10-G04		27	26.5	15	15			45.3
	1/4	KQB2S12-G02	8	19	18	27.7	21.2		46	23.6
ø12	3/8	KQB2S12-G03	10	22	22	24.9	17.4	18.6	60	27.4
	1/2	KQB2S12-G04		27	26.5	15.9	15.9		81	42.6
	3/8	KQB2S16-G03	10	24.6	22	31.3	23.8	20.8		41
ø16	1/2	KQB2S16-G04	12	27	26.5	27.8	18.8	113	42.9	

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



Metal One-touch Fittings **KQB2 Series**

Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Male Elbow: KQB2L

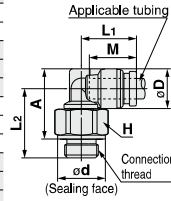


Applicable tubing O.D. (mm)	Connection thread G	Model	H (With across flt)	Note 1) øD	ød	L ₁	L ₂	A	M	Note 2) Effective area (mm ²)	Weight (g)
ø4	1/8	KQB2L04-G01	14	9.1	13.8	14.4	18.9	17.9	12.6	4.2	15.6
	1/4	KQB2L04-G02	19		17.8		22.3	20.3			33
ø6	1/8	KQB2L06-G01	14	11.4	13.8		20	20.2	13.6	11.4	17.2
	1/4	KQB2L06-G02	19		17.8	15.9	23.4	22.6			34.6
	3/8	KQB2L06-G03	22		21.8		25.9	24.1			54.5
ø8	1/8	KQB2L08-G01	14	13.7	13.8	18.6	21.3	22.6	16.1	21.6	20.2
	1/4	KQB2L08-G02	19		17.8	19.1	24.7	25			36
	3/8	KQB2L08-G03	22		21.8		27.2	26.5			55.6
ø10	1/8	KQB2L10-G01	14	16.6	13.8	20	22.7	25.5	17	35.2	25.7
	1/4	KQB2L10-G02	19		17.8		26.1	27.9			38.2
	3/8	KQB2L10-G03	22		21.8	21	28.6	29.4			56.2
	1/2	KQB2L10-G04	27		26.5		32.6	31.9			97.9
ø12	1/4	KQB2L12-G02	19	18.7	17.8	22.6	27.2	30	18.6	50.2	41.9
	3/8	KQB2L12-G03	22		21.8	23.6	29.6	31.4			54.3
	1/2	KQB2L12-G04	27		26.5		33.6	33.9			94.6
ø16	3/8	KQB2L16-G03	22	24.6	21.8	26.3	32.4	36.5	20.8	100	64.7
	1/2	KQB2L16-G04	27		26.5	27.3	36.4	39			95.7

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



KQ2

KQB2

KS

KX

KM

KF

M

H/DL

L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK

Male Branch Tee: KQB2T

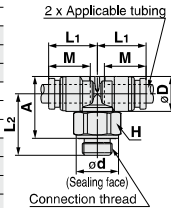


Applicable tubing O.D. (mm)	Connection thread G	Model	H (With across flt)	Note 1) øD	ød	L ₁	L ₂	A	M	Note 2) Effective area (mm ²)	Weight (g)
ø4	1/8	KQB2T04-G01	14	9.1	13.8	14.4	18.9	17.9	12.6	6	17.5
	1/4	KQB2T04-G02	19		17.8		22.3	20.3			34.9
ø6	1/8	KQB2T06-G01	14	11.4	13.8		20	20.2	13.6	13.9	21
	1/4	KQB2T06-G02	19		17.8	15.9	23.4	22.6			38
	3/8	KQB2T06-G03	22		21.8		25.9	24.1			57.9
ø8	1/8	KQB2T08-G01	14	13.7	13.8	18.6	21.3	22.6	16.1	26.3	25.6
	1/4	KQB2T08-G02	19		17.8	19.1	24.7	25			41.2
	3/8	KQB2T08-G03	22		21.8		27.2	26.5			60.8
ø10	1/8	KQB2T10-G01	14	16.6	13.8	20	22.7	25.5	17	40.8	34
	1/4	KQB2T10-G02	19		17.8		26.1	27.9			46
	3/8	KQB2T10-G03	22		21.8	21	28.6	29.4			64
	1/2	KQB2T10-G04	27		26.5		32.6	31.9			105.8
ø12	1/4	KQB2T12-G02	19	18.7	17.8	22.6	27.2	30	18.6	57.2	53
	3/8	KQB2T12-G03	22		21.8	23.6	29.6	31.4			54.3
	1/2	KQB2T12-G04	27		26.5		33.6	33.9			105
ø16	3/8	KQB2T16-G03	22	24.6	21.8	26.3	32.4	36.5	20.8	100	82.2
	1/2	KQB2T16-G04	27		26.5	27.3	36.4	39			112.1

Note 1) øD is maximum diameter.

Note 2) Value of FEP tubing.

Value of nylon tubing for ø16 only.



KQB2 Series

Applicable Tubing: Metric Size, Connection Thread: G

Tubing  One-touch fittings
Plug-in reducer/Plug

Tubing  Tubing
Union elbow/Union tee/Straight union etc.

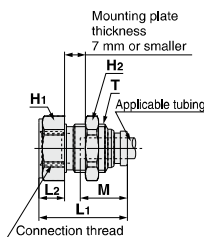
Refer to page 141 and after for details.

Dimensions

Bulkhead Connector: KQB2E



Applicable tubing O.D. (mm)	Connection thread G	Model	T (M)	Width across flat		L1	L2	Mounting hole	M	Note 1) Effective area (mm ²)	Weight (g)
				H1	H2						
ø4	1/8	KQB2E04-G01	M10 x 1	17	12	27.1	11	11	12.6	5.6	25.1
	1/4	KQB2E04-G02		19		32.7	16.6				36.9
	1/8	KQB2E06-G01		17		25.5	7.4				26.8
ø6	1/4	KQB2E06-G02	M14 x 1	19	17	33.5	15.4	15	13.6	13.1	42.7
	3/8	KQB2E06-G03		24		35	16.9				62
	1/8	KQB2E08-G01		17		27.6	8.2				30.4
ø8	1/4	KQB2E08-G02	M15 x 1	19	19	34.5	15.1	16	16.1	26.1	43.9
	3/8	KQB2E08-G03		24		36	16.6				66.2
	1/4	KQB2E10-G02		19	21	33.5	13.5	19	17	41.5	46.8
ø10	3/8	KQB2E10-G03	M18 x 1	24		35.6	15.6				65.4
	1/4	KQB2E12-G03		24	24	35.9	14.7				119.2
ø12	1/2	KQB2E12-G04	M20 x 1	27		42.2	21	21	18.6	58.3	91.9
	3/8	KQB2E16-G03		27		37.2	13.1				118.2
	1/2	KQB2E16-G04		29	30	43.1	19				128.7

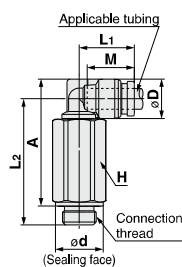


Note 1) Value of FEP tubing.
Value of nylon tubing for ø16 only.

Extended Male Union: KQB2W



Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flat)	Note 1) øD	øD	L1	L2	A	M	Note 2) Effective area (mm ²)	Weight (g)
ø4	1/8	KQB2W04-G01	14	9.1	13.8	14.4	35.3	34.3	12.6	4	34.5
	1/4	KQB2W04-G02	19		17.8		38.7	36.7			70.6
	1/8	KQB2W06-G01	14		13.8		36.4	36.6			36.1
ø6	1/4	KQB2W06-G02	19	11.4	17.8	15.9	39.8	39	13.6	10.9	72.2
	3/8	KQB2W06-G03	22		21.8		42.3	40.5			106.7
	1/8	KQB2W08-G01	14		13.8	18.6	40	41.3			41.3
ø8	1/4	KQB2W08-G02	19	13.7	17.8	19.1	43.4	43.7	16.1	20.5	76.7
	3/8	KQB2W08-G03	22		21.8		45.9	45.2			112.9
	1/4	KQB2W10-G02	19		17.8		49.8	51.6			84.8
ø10	3/8	KQB2W10-G03	22	16.6	21.8	21	50.2	51	17	33.5	116.6
	1/2	KQB2W10-G04	27		26.5		54.2	53.5			196.6
	1/4	KQB2W12-G02	19		17.8	22.6	50.9	53.7			88.7
ø12	3/8	KQB2W12-G03	22	18.7	21.8	23.6	53.3	55.1	18.6	47.7	111.6
	1/2	KQB2W12-G04	27		26.5		57.3	57.6			193.8
	3/8	KQB2W16-G03	22	24.6	21.8	26.3	62	66.1	20.8	71	133.6
ø16	1/2	KQB2W16-G04	27		26.5	27.3	66	68.6			201.6

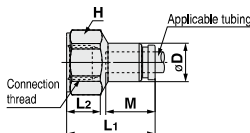


Note 1) øD is maximum diameter.
Note 2) Value of FEP tubing.
Value of nylon tubing for ø16 only.

Female Connector: KQB2F



Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flat)	Note 1) øD	L1	L2	M	Note 2) Effective area (mm ²)	Weight (g)
ø4	1/8	KQB2F04-G01	17	8.7	25	9.5	12.6	5.6	21
	1/4	KQB2F04-G02	19		30.6	14.5			32
	1/8	KQB2F06-G01	17		25.5	9.7			22.6
ø6	1/4	KQB2F06-G02	19	11.1	31.1	14.7	13.6	13.1	33
	3/8	KQB2F06-G03	24		32.6	14.6			51.1
	1/8	KQB2F08-G01	17		27.6	10			25.1
ø8	1/4	KQB2F08-G02	19	13.4	33.2	14.9	16.1	26.1	36.3
	3/8	KQB2F08-G03	24		34.6	14.7			53.8
	1/4	KQB2F10-G02	19	16.4	33.5	15.2	17	41.5	39.9
ø10	3/8	KQB2F10-G03	24		34.9	15			57.7
	1/4	KQB2F12-G02	19		34.5	15.2			41.8
ø12	3/8	KQB2F12-G03	24	18.5	35.9	15	18.6	58.3	59.7
	1/2	KQB2F12-G04	27		41.8	19.9			81.6
	3/8	KQB2F16-G03	24	24.6	37.2	15.4	20.8	81	66.6
ø16	1/2	KQB2F16-G04	27		43.1	20.4			113



Note 1) øD is maximum diameter.
Note 2) Value of FEP tubing.
Value of nylon tubing for ø16 only.

Related Equipment

Spatter cover

(Applicable tubing: FR soft nylon, FR double layer, FR three-layer)



Applicable tubing O.D. (mm)	Model
ø6	KQB2-06C-X1124
ø8	KQB2-08C-X1124
ø10	KQB2-10C-X1124

- * Since the spatter cover is designed for multi-layer (double layer, three-layer) tubing, sufficient effects cannot be obtained in foreign matter flow-in or followability for single layer tubing.
- * The cover can be attached regardless of the single-layer/multi-layer tubing.
- * Cannot be used for union "Y" (KQB2U) 2-port side.





KQB2 Series

Specific Product Precautions

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 13 to 17 for Fittings and Tubing Precautions.

Selection

⚠ Caution

1. The surge 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 tubing or the tubing may result in being fallen out.
2. If using a fluororesin tubing in an environment where the fluid temperature changes drastically, it is recommended to use an inner sleeve. Otherwise, air leakage may occur or the tube may release from fitting due to deformation of the tubing.
3. The particle generation of the KQB2 series depends on the operating conditions and operating environment. If you are concerned about the effects on machinery and equipment, check the particle generation with your machine before use.

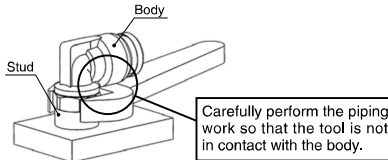
The components of the KQB2 series may slide due to changes in the internal pressure, which may generate particles. When using male elbow, male branch tee, and extended male elbow fittings, particles may be generated by rotation for positioning after connecting.

Mounting

⚠ Caution

1. When performing the piping work, turn the tightening tool in the horizontal direction to the hex, across flats of the stud so that any moment is not applied to the body.

If the tool is in contact with the body, this may cause the stud to come off.



2. The union elbow, union tee, union "Y", different diameter tee and different diameter union "Y" should be fixed through the mounting hole.
Otherwise, air leakage or breaking can occur due to a pulling force or moment load created by the product's weight.
3. The elbow union, branch tee, and long elbow union can be turned for positioning after connecting, but they cannot be used while turning them.
Doing so may cause worn out metallic particles to enter the fluid or the fitting to break.
4. If the connection tube oscillates or turns, do not use this product.
Doing so may cause the fitting to break. In particular, for the product with the stud, this may cause the stud to come off.

Installation and Removal of Tubing

⚠ Caution

1. Installation of tubing
 - 1) Grease is not used for the KQB2 series, therefore a greater insertion force is required when the tube is installed. In particular, polyurethane tubing may fold when inserted due to its softness. Hold the end of the tubing, and insert it all the way in slowly and securely. Refer to dimension "M" in the dimension drawings for guidance on the insertion depth of tubing.
2. Removal of tubing
 - 1) For tubing used at a high temperature or for an extended period of time, there is a possibility that it will not fit into a One-touch fitting again due to an enlarged O.D. Dispose of the tubing and replace it with a new one.

Proper Tightening Torque of Fittings

⚠ Caution

1. Tighten fittings with sealant using the proper tightening torques in the table below. As a rule, they should be tightened 2 to 3 turns with a tool after first tightening by hand.

If tightened using a torque exceeding the proper torque level, this may cause the fitting to break.
In particular, for the product with the stud, the stud may come off.

R thread/NPT thread Proper tightening torque

Connection thread size	Proper tightening torque N·m
NPT, R1/8	3 to 5
NPT, R1/4	8 to 12
NPT, R3/8	15 to 20
NPT, R1/2	20 to 25

G thread Proper tightening torque

Connection thread size	Proper tightening torque N·m
G1/8	2.9 to 3.2
G1/4	5.7 to 6.3
G3/8	9.5 to 10.5
G1/2	14.3 to 15.8

KQ2

KQB2

KS

KX

KM

KF

M

H/DL

L/LL

KC

KK

KK130

DM

KDM

KB

KR

KA

KQG2

KG

KFG2

MS

KKA

KP

LQ

MQR

T

IDK