

For Food Industry

EHEDG Compliant/Clean Design/ FDA Compliant Fittings

New

RoHS

- Hygienic design prevents liquid from accumulating after cleaning
- FDA compliant materials

EHEDG Compliant Fittings

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EHEDG Compliant

IP69K

Hygienic Design

FDA Compliant

Stainless Steel 316 Insert Fittings

KFG2H□-E Series



Clean Design Fittings

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Hygienic Design

FDA Compliant

Stainless Steel 316 Insert Fittings

KFG2H□-C Series



FDA Compliant Fittings

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FDA Compliant



Stainless Steel 316 One-touch Fittings

KQG2-F Series



Metal One-touch Fittings

KQB2-F Series



Stainless Steel 316 Insert Fittings

KFG2-F Series

KFG2H-E/KFG2H-C/KQ_B2-F KFG2-F Series



CAT.ES50-41A

EHEDG Compliant Fittings

EHEDG Compliant

IP69K

Hygienic Design

FDA Compliant

KFG2H□-E Series

p. 7



EHEDG Certification

This series satisfies EHEDG guidelines (hygienic design standards), preventing liquid and foreign matter from entering, and is easy to wash.

Design for less residual liquid accumulation



EHEDG compliant fitting

Design for better liquid flow and less residual liquid accumulation

Existing KFG2 model

Design for poor liquid flow and more residual liquid accumulation

Achieved IP69K rating

Rubber parts

The material used is a special FKM that is compliant with the Food and Drug Administration (FDA) §177.2600. They are colored in blue for superior visibility.

Body type: Male connector

Connection thread: M, G^{*1}

*1 ISO 16030 compliant

Fluid temperature

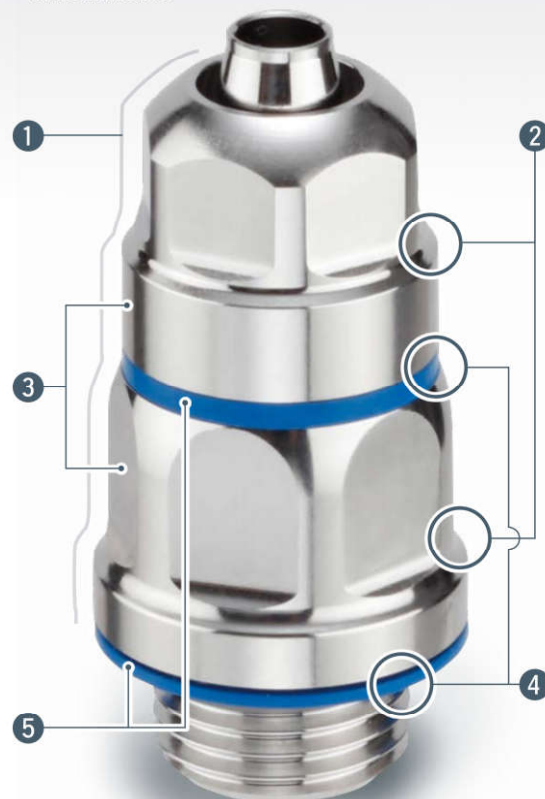
-5 to 150°C

EHEDG design standards

- 1 External surface roughness:
Ra 0.8 µm or less
- 2 Corners of radius 3 mm or more or with an internal angle of 135°
- 3 Stainless material with high anti-corrosion performance: Stainless steel 316
- 4 No direct contact of external metal parts
- 5 Gasket seals made of FDA-compliant rubber materials



EHEDG Certificate of Compliance



Clean Design Fittings

Hygienic
Design

FDA
Compliant

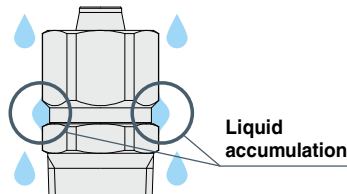
KFG2H□-C Series

p. 11

Design for less residual liquid accumulation



Clean design fitting
Rounded design for less residual liquid accumulation



Existing KFG2 model
Design for poor liquid flow and more residual liquid accumulation

Metal parts: Stainless steel 316

Rubber parts

The material used is a special FKM that is compliant with the Food and Drug Administration (FDA) §177.2600. They are colored in blue for superior visibility.

Body type: Male connector

Connection thread: M, G^{*1}

*1 ISO 16030 compliant

Fluid temperature

-5 to 150°C



FDA Compliant Fittings

FDA
Compliant

KQG2-F/KQB2-F/KFG2-F Series

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Rubber parts

The material used is a special FKM that is compliant with the Food and Drug Administration (FDA) §177.2600.

Grease

NSF H1-compliant paraffin grease is used.

Stainless Steel 316 One-touch Fittings KQG2-F Series

Applicable tubing: Metric size
Connection thread: M, R, Rc, UNF, NPT, G*1

*1 ISO 16030 compliant



Metal One-touch Fittings KQB2-F Series

Applicable tubing: Metric size
Connection thread: M, R, Rc, UNF, NPT, G*1

*1 ISO 16030 compliant



Stainless Steel 316 Insert Fittings KFG2-F Series

Applicable tubing: Metric size
Connection thread: R, Rc, NPT, G*1,*2

*1 Swivel elbow only
*2 ISO 16030 compliant



FDA (U.S. Food and Drug Administration) Compliant Tubing

Polyurethane Tubing

TU-X214



- Complies with the FDA (U.S. Food and Drug Administration) § 177.2600 dissolution test
- Complies with the EU No 10/2011 dissolution test
- Max. operating pressure: 0.8 MPa (at 20°C)

Tubing O.D.		Color	Fluid
Metric size	Inch size		
ø4, ø6, ø8, ø10, ø12		Black, White, Red, Blue, Yellow, Green, Clear, Orange	Air, Water

Fluoropolymer Tubing

TL/TIL



- Complies with the FDA (U.S. Food and Drug Administration) § 177.1550 dissolution test
- Food Sanitation Law compliant*1
- Max. operating pressure: 1.0 MPa (at 20°C)
- Operating temperature (Fixed usage): -65 to 260°C

Tubing O.D.		Color
Metric size	Inch size	
ø4, ø6, ø8, ø10, ø12, ø19	ø1/8", ø3/16", ø1/4", ø3/8", ø1/2", ø3/4", ø1"	Translucent

Fluoropolymer Tubing (PFA)

TLM/TILM



- Complies with the FDA (U.S. Food and Drug Administration) § 177.1550 dissolution test
- Food Sanitation Law compliant*1
- Operating temperature (Fixed usage): Air, Inert gas: -65 to 260°C Water: 0 to 100°C (No freezing)

Tubing O.D.		Color
Metric size	Inch size	
ø2, ø3, ø4, ø6, ø8, ø10, ø12, ø16, ø19, ø25	ø1/8", ø3/16", ø1/4", ø3/8", ø1/2", ø3/4", ø1", ø1 1/4"	Translucent, Black, Red, Blue

FEP Tubing (Fluoropolymer)

TH/THH



- Complies with the FDA (U.S. Food and Drug Administration) § 177.1550 dissolution test
- Food Sanitation Law compliant*1
- Max. operating pressure: 2.3 MPa (at 20°C)*2
- *2 This may vary according to size.
- Operating temperature (Fixed usage): Air, Inert gas: -65 to 200°C Water: 0 to 100°C (No freezing)
- Longer length reel (500 m): -X64

Tubing O.D.		Color
Metric size	Inch size	
ø4, ø6, ø8, ø10, ø12	ø1/8", ø3/16", ø1/4", ø3/8", ø1/2", ø3/4"	Translucent, Black, Red, Blue

Soft Fluoropolymer Tubing

TD/TID



- Complies with the FDA (U.S. Food and Drug Administration) § 177.1550 dissolution test
- Food Sanitation Law compliant*1
- Max. operating pressure: 1.6 MPa (at 20°C)*2
- *2 This may vary according to size.
- Operating temperature (Fixed usage): Air, Inert gas: -65 to 260°C Water: 0 to 100°C (No freezing)

Tubing O.D.		Color
Metric size	Inch size	
ø4, ø6, ø8, ø10, ø12	ø1/8", ø3/16", ø1/4", ø3/8", ø1/2"	Translucent

Polyolefin Tubing

TPH



- Complies with the FDA (U.S. Food and Drug Administration) § 175.300 dissolution test
- Max. operating pressure (at 20°C): 1.0 MPa (ø4, ø6), 0.7 MPa (ø8, ø10, ø12)
- Longer length reel (500 m): -X40

Applicable tubing O.D.	Color	Fluid
ø4, ø6, ø8, ø10, ø12	White, Blue, Yellow	Air, Water, etc.

Soft Polyolefin Tubing

TPS



- Complies with the FDA (U.S. Food and Drug Administration) § 175.300 dissolution test
- Max. operating pressure (at 20°C): 0.7 MPa (ø4 to ø12)

Applicable tubing O.D.	Color	Fluid
ø4, ø6, ø8, ø10, ø12	White, Blue, Yellow	Air, Water, etc.

*1 Testing in compliance with Japan's Food Sanitation Law based on the 370th notice given by the Ministry of Health and Welfare in 1959

Variations

Male Connector **KQG2H**

Metric	R thread	p. 18
	G thread	p. 32
Inch		p. 25



Bulkhead Union **KQG2E**

Metric	p. 20
Inch	p. 27



Different Diameter Union "Y" **KQG2U**

Metric	p. 21
Inch	p. 28



Hexagon Socket Head Male Connector **KQG2S**

Metric	R thread	p. 18
	G thread	p. 32
Inch		p. 25



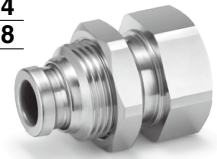
Union Tee **KQG2T**

Metric	p. 20
Inch	p. 27



Bulkhead Connector **KQG2E**

Metric	Rc thread	p. 21
	G thread	p. 34
Inch		p. 28



Straight Union **KQG2H**

Metric	p. 18
Inch	p. 25



Union "Y" **KQG2U**

Metric	p. 20
Inch	p. 27



Extended Male Elbow **KQG2W**

Metric	R thread	p. 22
	G thread	p. 34
Inch		p. 28



Male Elbow **KQG2L**

Metric	R thread	p. 19
	G thread	p. 33
Inch		p. 26



Different Diameter Tee **KQG2T**

Metric	p. 20
Inch	p. 27



Female Connector **KQG2F**

Metric	Rc thread	p. 22
	G thread	p. 34
Inch		p. 29



Male Branch Tee **KQG2T**

Metric	R thread	p. 19
	G thread	p. 33
Inch		p. 26



Plug-in Reducer **KQG2R**

Metric	p. 20
Inch	p. 27



Plug **KQG2P**

Metric	p. 22
Inch	p. 29



Union Elbow **KQG2L**

Metric	p. 19
Inch	p. 26



Different Diameter Straight **KQG2H**

Metric	p. 21
Inch	p. 28



FDA Compliant Fittings

Stainless Steel 316 One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: G*¹

KQG2-F Series

*1 ISO 16030 compliant

RoHS



Applicable Tubing

Tubing material* ¹	FEP, PFA, Nylon, Soft nylon, Polyurethane, Polyolefin
Tubing O.D.	ø4, ø6, ø8, ø10, ø12, ø16

*1 Considering the product application, FDA-compliant products are recommended.

Specifications

Fluid	Air, Water* ¹ , Steam* ²
Operating pressure range* ³	-100 kPa to 1 MPa* ⁴
Proof pressure	3.0 MPa
Ambient and fluid temperatures* ⁵	-5 to 150°C (No freezing)* ⁴
Lubricant	NSF H1 grease
Seal on the threads	O-ring seal

*1 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.

*2 Please contact SMC for applicable tubing separately.

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

*4 Check the operating pressure range and operating temperature range of the tubing.

*5 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	KQG223-P01	Stainless steel 316
	ø6	KQG206-P01	
	ø8	KQG208-P01	
	ø10	KQG210-P01	
	ø12	KQG212-P01	
	ø16	KQG216-P01	

Description	Thread size	Part no.	Material
G thread O-ring	G1/8	KQB2-G01-F	FDA compliant FKM
	G1/4	KQB2-G02-F	
	G3/8	KQB2-G03-F	
	G1/2	KQB2-G04-F	

Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material			Applicable inner sleeve	
	TUS (Soft polyurethane)	TH/TH (FEP)	TL/TL (Super PFA)	Part no.	Length
ø4	—	TH0402	—	TJG-0402	18
	TUS0425	TH0425	—	TJG-0425	18
	—	—	TL0403	TJG-0403	18
ø6	TUS0604	TH0604	TL0604	TJG-0604	19
	TUS0805	—	—	TJG-0805	20.5
ø8	—	TH0806	TL0806	TJG-0806	20.5
	TUS1065	—	—	TJG-1065	23
ø10	—	TH1075	—	TJG-1075	23
	—	TH1008	TL1008	TJG-1008	23
	TUS1208	—	—	TJG-1208	24
ø12	—	TH1209	—	TJG-1209	24
	—	TH1210	TL1210	TJG-1210	24

* Stainless steel 316 is used for the TJG series.

EHDG
Compliant

Metric M, G
KFG2H□-E

Clean
Design

Metric M, G
KFG2H□-C

FDA
Compliant

Metric M, R, Rc
KQG2-F

Inch UNF, NPT
KQG2-F

Metric G
KQG2-F

Metric M, R, Rc
KQB2-F

Inch UNF, NPT
KQB2-F

Metric G
KQB2-F

Metric R, Rc
KFG2-F

Inch NPT
KFG2-F

Metric G
KFG2-F

Precautions

KQG2-F Series

Applicable Tubing: Metric Size, Connection Thread: G

How to Order

KQG2 **H** **04** - **G** **02** - **F**

Body type

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
T	Male branch tee
E	Bulkhead connector
W	Extended male elbow
F	Female connector

FDA compliant

Thread size

Symbol	Size
01	G1/8
02	G1/4
03	G3/8
04	G1/2

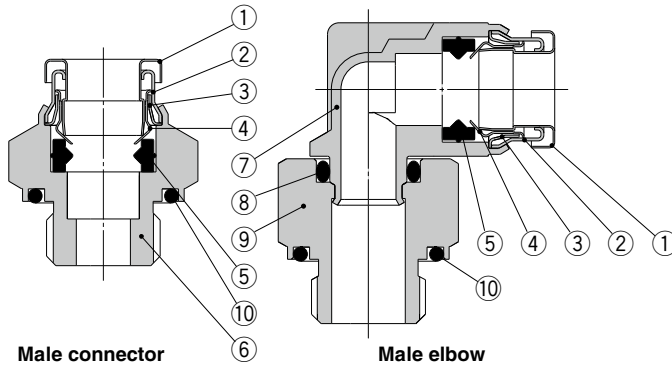
Tubing size (Metric)

Symbol	Size
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Thread type

Symbol	Type
G	G

Construction



Component Parts

No.	Description	Material
1	Release button	Stainless steel 316
2	Guide 1	Stainless steel 316
3	Guide 2	Stainless steel 316
4	Chuck	Stainless steel 316
5	Seal	FDA compliant FKM (NSF H1 grease)
6	Male connector body	Stainless steel 316
7	Male elbow body	Stainless steel 316 (NSF H1 grease)
8	O-ring	FDA compliant FKM (NSF H1 grease)
9	Stud	Stainless steel 316
10	G thread O-ring	FDA compliant FKM

Stainless Steel 316 One-touch Fittings **KQG2-F Series**

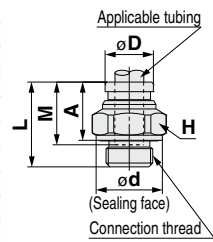
Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Male Connector: KQG2H



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	ød	L	A	M	Effective area [mm ²] ^{*1}	Weight [g]
ø4	1/8	KQG2H04-G01-F	14	—	13.8	16.6	11.1	12.6	5.6	8.2
	1/4	KQG2H04-G02-F	19		17.8	20.6	14.1			22
ø6	1/8	KQG2H06-G01-F	14	—	13.8	17.6	12.1	13.6	13.1	8.6
	1/4	KQG2H06-G02-F	19		17.8	20.5	14			20.6
	3/8	KQG2H06-G03-F	22		21.8	23.4	15.9			36.4
ø8	1/8	KQG2H08-G01-F	14	—	13.8	23.9	18.4	16.1	26.1	12.7
	1/4	KQG2H08-G02-F	19		17.8	21.2	14.7			18.3
	3/8	KQG2H08-G03-F	22		21.8	24	16.5			33.6
ø10	1/8	KQG2H10-G01-F	17	—	13.8	25.1	19.6	17	41.5	19.1
	1/4	KQG2H10-G02-F	19		17.8	24.9	18.4			23.8
	3/8	KQG2H10-G03-F	22		21.8	23.3	15.8			29.5
	1/2	KQG2H10-G04-F	27		26.5	27.7	18.7			61.1
ø12	1/4	KQG2H12-G02-F	19	—	17.8	27.7	21.2	18.6	58.3	25.3
	3/8	KQG2H12-G03-F	22		21.8	23.5	16			24.5
	1/2	KQG2H12-G04-F	27		26.5	27.9	18.9			55.1
ø16	3/8	KQG2H16-G03-F	24	24.6	21.8	31.3	23.8	20.8	81	42.4
	1/2	KQG2H16-G04-F	27		26.5	27.3	18.3			113

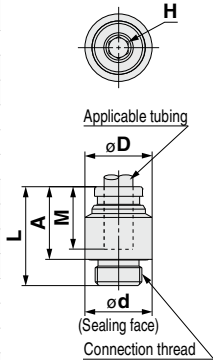


*1 Value of FEP tubing
Value of nylon tubing for ø16 only

Hexagon Socket Head Male Connector: KQG2S



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	ød	L	A	M	Effective area [mm ²] ^{*1}	Weight [g]
ø4	1/8	KQG2S04-G01-F	3	14	14	20.4	14.9	12.6	4.1	13
	1/8	KQG2S06-G01-F	4	14	14	20.6	15.1	13.6	10	11.6
1/4	KQG2S06-G02-F	18		18	10.7		19.1			
ø6	1/8	KQG2S08-G01-F	5	14	14	23.9	18.4	16.1	17.2	11.9
	1/4	KQG2S08-G02-F	6	18	18	22.9	16.4		23.3	19.2
	3/8	KQG2S08-G03-F		22	22	23.1	15.6		29.7	
ø8	1/8	KQG2S10-G01-F	5	17	14	25.1	19.6	17	17.2	17.6
	1/4	KQG2S10-G02-F	8	18	18	24.9	18.4		39	19.6
	3/8	KQG2S10-G03-F		22	22	16.5	29.8			
	1/2	KQG2S10-G04-F		27	26.5	15	43.1			
1/4	KQG2S12-G02-F	8		19	18	27.7	21.2	46		22.7
ø12	3/8	KQG2S12-G03-F	10	22	22	24.9	17.4	18.6	60	26.3
	1/2	KQG2S12-G04-F		27	26.5		15.9		40.5	
	3/8	KQG2S16-G03-F		10	24.6		22		31.3	23.8
ø16	1/2	KQG2S16-G04-F	12	27	26.5	27.8	18.8	20.8	113	40.9



*1 Value of FEP tubing
Value of nylon tubing for ø16 only

EHEDG
Compliant
Metric M, G
KFG2H□-E

Clean
Design

Metric M, G
KFG2H□-C

FDA
Compliant

Metric M, R, Rc
KQG2-F

Inch UNF, NPT
KQG2-F

Metric G
KQG2-F

Metric M, R, Rc
KQB2-F

Inch UNF, NPT
KQB2-F

Metric G
KQB2-F

Metric R, Rc
KFG2-F

Inch NPT
KFG2-F

Metric G
KFG2-F

Precautions

KQG2-F Series

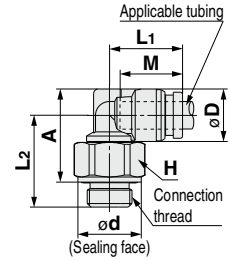
Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Male Elbow: KQG2L



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD*1	ød	L1	L2	A	M	Effective area [mm ²]*2	Weight [g]
ø4	1/8	KQG2L04-G01-F	14	9.1	13.8	14.4	18.9	17.9	12.6	4.2	15
	1/4	KQG2L04-G02-F	19		17.8		22.3	20.3			32.2
ø6	1/8	KQG2L06-G01-F	14	11.4	13.8	15.9	20	20.2	13.6	11.4	16.6
	1/4	KQG2L06-G02-F	19		17.8		23.4	22.6			33.8
	3/8	KQG2L06-G03-F	22		21.8		25.9	24.1			52.8
ø8	1/8	KQG2L08-G01-F	14	13.7	13.8	18.6	21.3	22.6	16.1	21.6	19.6
	1/4	KQG2L08-G02-F	19		17.8		24.7	25			34.6
	3/8	KQG2L08-G03-F	22		21.8		27.2	26.5			53.2
ø10	1/8	KQG2L10-G01-F	14	16.6	13.8	20	22.7	25.5	17	35.2	25.2
	1/4	KQG2L10-G02-F	19		17.8		26.1	27.9			37
	3/8	KQG2L10-G03-F	22		21.8		28.6	29.4			55.1
	1/2	KQG2L10-G04-F	27		26.5		32.6	31.9			94.7
ø12	1/4	KQG2L12-G02-F	19	18.7	17.8	22.6	27.2	30	18.6	50.2	40.8
	3/8	KQG2L12-G03-F	22		21.8		29.6	31.4			52.5
	1/2	KQG2L12-G04-F	27		26.5		33.6	33.9			90.5
ø16	3/8	KQG2L16-G03-F	22	24.6	21.8	26.3	32.4	36.5	20.8	71	63
	1/2	KQG2L16-G04-F	27		26.5		27.3	36.4		39	100

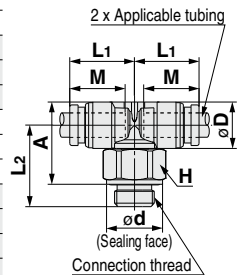


*1 For the ø16, this dimension refers to the O.D. of the release button.
 *2 Value of FEP tubing
 Value of nylon tubing for ø16 only

Male Branch Tee: KQG2T



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD*1	ød	L1	L2	A	M	Effective area [mm ²]*2	Weight [g]
ø4	1/8	KQG2T04-G01-F	14	9.1	13.8	14.4	18.9	17.9	12.6	6	16.9
	1/4	KQG2T04-G02-F	19		17.8		22.3	20.3			34.2
ø6	1/8	KQG2T06-G01-F	14	11.4	13.8	15.9	20	20.2	13.6	13.9	19.9
	1/4	KQG2T06-G02-F	19		17.8		23.4	22.6			37.2
	3/8	KQG2T06-G03-F	22		21.8		25.9	24.1			56.2
ø8	1/8	KQG2T08-G01-F	14	13.7	13.8	18.6	21.3	22.6	16.1	26.3	25
	1/4	KQG2T08-G02-F	19		17.8		24.7	25			39.8
	3/8	KQG2T08-G03-F	22		21.8		27.2	26.5			58.4
ø10	1/8	KQG2T10-G01-F	14	16.6	13.8	20	22.7	25.5	17	40.8	33.4
	1/4	KQG2T10-G02-F	19		17.8		26.1	27.9			44.8
	3/8	KQG2T10-G03-F	22		21.8		28.6	29.4			62.9
	1/2	KQG2T10-G04-F	27		26.5		32.6	31.9			102.6
ø12	1/4	KQG2T12-G02-F	19	18.7	17.8	22.6	27.2	30	18.6	57.2	51.5
	3/8	KQG2T12-G03-F	22		21.8		29.6	31.4			58.1
	1/2	KQG2T12-G04-F	27		26.5		33.6	33.9			100.6
ø16	3/8	KQG2T16-G03-F	22	24.6	21.8	26.3	32.4	36.5	20.8	71	80.4
	1/2	KQG2T16-G04-F	27		26.5		27.3	36.4		39	100



*1 For the ø16, this dimension refers to the O.D. of the release button.
 *2 Value of FEP tubing
 Value of nylon tubing for ø16 only

Stainless Steel 316 One-touch Fittings **KQG2-F Series**

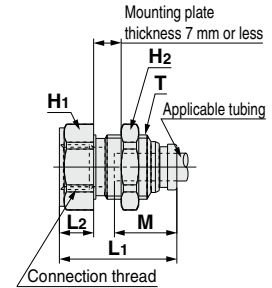
Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Bulkhead Connector: KQG2E



Applicable tubing O.D. [mm]	Connection thread G	Model	T (M)	Width across flats		L1	L2	Mounting hole	M	Effective area [mm ²]*1	Weight [g]
				H1	H2						
ø4	1/8	KQG2E04-G01-F	M10 x 1	17	12	27.1	11	11	12.6	5.6	23.8
	1/4	KQG2E04-G02-F		19		32.7	16.6				34.9
ø6	1/8	KQG2E06-G01-F	M14 x 1	17	17	25.5	7.4	15	13.6	13.1	26
	3/8	KQG2E06-G03-F		24		35	16.9				57.8
ø8	1/8	KQG2E08-G01-F	M15 x 1	17	19	27.6	8.2	16	16.1	26.1	29.6
	1/4	KQG2E08-G02-F		19		34.5	15.1				40.3
	3/8	KQG2E08-G03-F		24		36	16.6				58.1
ø10	1/4	KQG2E10-G02-F	M18 x 1	19	21	33.5	13.5	19	17	41.5	45.1
	3/8	KQG2E10-G03-F		24		35.6	15.6				61.4
ø12	3/8	KQG2E12-G03-F	M20 x 1	24	24	35.9	14.7	21	18.6	58.3	65.7
	1/2	KQG2E12-G04-F		27		42.2	21				88.5
ø16	3/8	KQG2E16-G03-F	M27 x 1	29	30	37.2	13.1	28	20.8	96	114.7
	1/2	KQG2E16-G04-F		43.1		19	124.2				

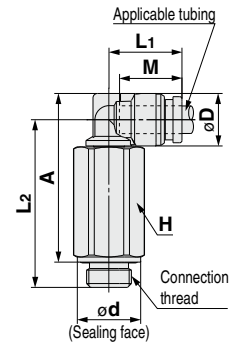


*1 Value of FEP tubing
Value of nylon tubing for ø16 only

Extended Male Elbow: KQG2W



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD*1	ød	L1	L2	A	M	Effective area [mm ²]*2	Weight [g]
	1/4	KQG2W04-G02-F	19	17.8	38.7	36.7	68.6				
ø6	1/8	KQG2W06-G01-F	14	11.4	13.8	15.9	36.4	36.6	13.6	10.9	34.5
	1/4	KQG2W06-G02-F	19		17.8		39.8	39			70.2
ø8	3/8	KQG2W06-G03-F	22	13.7	21.8	19.1	42.3	40.5	16.1	20.5	102.9
	1/8	KQG2W08-G01-F	14		13.8		40	41.3			39.6
ø10	1/4	KQG2W08-G02-F	19	16.6	17.8	21	43.4	43.7	17	33.5	73.1
	3/8	KQG2W08-G03-F	22		21.8		45.9	45.2			107.4
ø12	1/2	KQG2W10-G04-F	27	18.7	26.5	23.6	54.2	53.5	18.6	47.7	189.8
	1/4	KQG2W10-G02-F	19		17.8		50.9	53.7			85
ø16	3/8	KQG2W12-G03-F	22	24.6	21.8	26.3	53.3	55.1	20.8	71	106.8
	1/2	KQG2W12-G04-F	27		26.5		57.3	57.6			184.8
ø16	3/8	KQG2W16-G03-F	22	24.6	21.8	26.3	62	66.1	20.8	100	128.2
	1/2	KQG2W16-G04-F	27		26.5		66	68.6			192.9

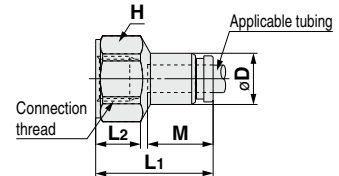


*1 For the ø16, this dimension refers to the O.D. of the release button.
*2 Value of FEP tubing
Value of nylon tubing for ø16 only

Female Connector: KQG2F



Applicable tubing O.D. [mm]	Connection thread G	Model	H1 (Width across flats)	øD*1	L1	L2	M	Effective area [mm ²]*2	Weight [g]
	1/4	KQG2F04-G02-F	19	30.6	14.5	30.4			
ø6	1/8	KQG2F06-G01-F	17	11.1	25.5	9.7	13.6	13.1	21.4
	1/4	KQG2F06-G02-F	19		31.1	14.7			32
ø8	3/8	KQG2F06-G03-F	24	13.4	32.6	14.6	16.1	26.1	48.5
	1/8	KQG2F08-G01-F	17		27.6	10			23.8
ø10	1/4	KQG2F08-G02-F	19	16.4	33.2	14.9	17	41.5	34.5
	3/8	KQG2F08-G03-F	24		34.6	14.7			51
ø12	1/4	KQG2F10-G02-F	19	18.5	33.5	15.2	18.6	58.3	37.9
	3/8	KQG2F10-G03-F	24		34.9	15			54.8
ø16	1/2	KQG2F12-G04-F	27	24.6	34.5	15.2	20.8	113	39.8
	3/8	KQG2F12-G03-F	24		35.9	15			56.7
ø16	3/8	KQG2F16-G03-F	24	24.6	37.2	15.4	20.8	113	63.3
	1/2	KQG2F16-G04-F	27		43.1	20.4			84.7



*1 For the ø10, ø12, and ø16, this dimension refers to the O.D. of the release button.
*2 Value of FEP tubing
Value of nylon tubing for ø16 only

EHEDG
Compliant

Metric M, G
KFG2H□-E

Clean
Design

Metric M, G
KFG2H□-C

FDA
Compliant

Metric M, R, Rc
KQG2-F

Inch UNF, NPT
KQG2-F

Metric G
KQG2-F

Metric M, R, Rc
KQB2-F

Inch UNF, NPT
KQB2-F

Metric G
KQB2-F

Metric R, Rc
KFG2-F

Inch NPT
KFG2-F

Metric G
KFG2-F

Precautions



FDA Compliant Fittings

KQG2-F Series

Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions and pages 75 to 79 for fittings & tubing precautions.

Selection

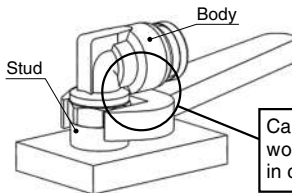
⚠ Caution

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 KQG2-F 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 KQG2-F 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 hexagon 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 male elbow, male branch tee, and extended male elbow 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.

Cleaning Method

⚠ Warning

1. Check the connection before cleaning.
Clean the fittings with the tube and plug connected and the screw tightened.
2. Review the conditions before cleaning.
Make sure that the fitting material is not affected or damaged by chemical solution, temperature, and water pressure before use.
3. Do not use a metal brush or tool that may damage or scratch the fitting.

Operating Environment

⚠ Caution

1. The table below shows material of parts.
Please refer to the relevant standards for parts when determining suitability in applications and operating conditions.

Item	Material	Compliant standards
Pressing parts	Stainless steel	AISI316
Cutting parts	Stainless steel	AISI316
MIM parts	Stainless steel	AISI316L equivalent
Rubber parts	Fluoropolymer	FDA 21CFR 177.2600
Grease	Paraffin oil	NSF H1

Installation and Removal of Tubing

⚠ Caution

1. 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. Connection thread tightening method: M5, 10-32UNF
Tighten fittings with a tightening torque of 1 to 1.5 N·m.
2. Connection thread tightening method: G
Tighten fittings with sealant using the proper tightening torques in the table below. 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.

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

Stainless steel

Metal exists in nature as ore (like oxide or sulfide). This means that oxide or sulfide is more stable than pure metal. Accordingly, metallic material chemically oxidizes (metallic constituent becomes ion and melts out). It corrodes in the natural environment.

Even though corrosion of metal easily occurs in an environment where oxidizing tendency is stronger, some kinds of metal have a characteristic for which corrosion never happens if the level of oxidizing goes higher than a specific point. In such a case, it is called "metal in passive state". Stainless steel has corrosion resistance because of a thin coat of passive state on its surface. However, there does not exist stainless steel with absolute corrosion resistance; therefore, many types of stainless steel have been developed for improved corrosion resistance performance.