

Stainless Steel 316 One-touch Fittings

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

KQG2-F Series

RoHS



Applicable Tubing

Tubing material*1	FEP, PFA, Nylon, Soft nylon, Polyurethane, Polyolefin
Tubing O.D.	Ø 3.2, Ø 4, Ø 6, Ø 8, Ø 10, Ø 12, Ø 16

*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	Without sealant

*1 Deionised 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. (Except Ø 3.2)
 · 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
O-ring	—	M-5-F	FDA compliant FKM
Bulkhead nut	Ø 3.2, Ø 4	KQG223-P01	Stainless steel 316
	Ø 6	KQG206-P01	
	Ø 8	KQG208-P01	
	Ø 10	KQG210-P01	
	Ø 12	KQG212-P01	
	Ø 16	KQG216-P01	

Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material			Applicable inner sleeve	
	TUS (Soft polyurethane)	TH/THI (FEP)	TL/TIL (Super PFA)	Part no.	Length
Ø 4	—	TH0402	—	TJG-0402	18
	TUS0425	TH0425	—	TJG-0425	18
	—	—	TL0403	TJG-0403	18
Ø 6	TUS0604	TH0604	TL0604	TJG-0604	19
	TUS0805	—	—	TJG-0805	20.5
Ø 8	—	TH0806	TL0806	TJG-0806	20.5
	TUS1065	—	—	TJG-1065	23
Ø 10	—	TH1075	—	TJG-1075	23
	—	TH1008	TL1008	TJG-1008	23
	TUS1208	—	—	TJG-1208	24
Ø 12	—	TH1209	—	TJG-1209	24
	—	TH1210	TL1210	TJG-1210	24
	—	—	—	—	—

* Stainless steel 316 is used for the TJG series.

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: M, R, Rc

How to Order

KQG2 H 04 - 02 - F

Body type

Symbol	Model
H	Male connector, Straight union, Different diameter straight
S	Hexagon socket head male connector
L	Male elbow, Union elbow
T	Male branch tee, Union tee, Different diameter tee
E	Bulkhead union, Bulkhead connector
U	Union "Y", Different diameter union "Y"
R	Plug-in reducer
W	Extended male elbow
F	Female connector

* Plugs are excluded as the standard plug is FDA-compliant.

Tubing size (Metric)

Symbol	Size
23	Ø 3.2
04	Ø 4
06	Ø 6
08	Ø 8
10	Ø 10
12	Ø 12
16	Ø 16

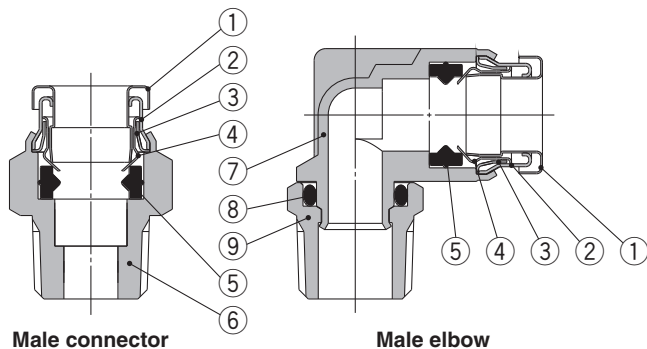
FDA compliant

Thread size, Tubing size

Symbol	Size	
M5	M5 x 0.8	Thread size
01	R1/8, Rc1/8	
02	R1/4, Rc1/4	
03	R3/8, Rc3/8	
04	R1/2, Rc1/2	
00	Same tubing O.D.	Tubing size
04	Ø 4	
06	Ø 6	
08	Ø 8	
10	Ø 10	
12	Ø 12	
16	Ø 16	

* Sealant is unavailable for this product as no FDA-compliant material is available.

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

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

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

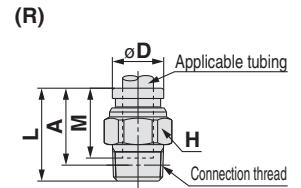
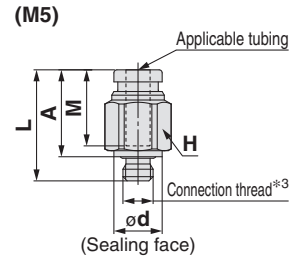
Dimensions

Male Connector: KQG2H



Applicable tubing O.D. (mm)	Connection thread R, M	Model	H (Width across flats)	Ø D	Ø d	L	A*1	M	Effective area [mm ²]*2	Weight [g]		
Ø 3.2	M5 x 0.8	KQG2H23-M5-F	8	—	8	17.8	13.8	12	3	3.6		
	1/8	KQG2H23-01-F	10			15.4	12.3		3.4	5.7		
	1/4	KQG2H23-02-F	14			21	16.3		16.9			
Ø 4	M5 x 0.8	KQG2H04-M5-F	10	—	8	18.4	14.4	12.6	4	5.5		
	1/8	KQG2H04-01-F	14			15.3	12.2		5.6	4.7		
	1/4	KQG2H04-02-F	14			20.9	16.2		15.8			
Ø 6	M5 x 0.8	KQG2H06-M5-F	12	—	8	19.6	15.6	13.6	4	7.7		
	1/8	KQG2H06-01-F	12			18.1	15		7			
	1/4	KQG2H06-02-F	14			20.8	16.1		13.1	14.5		
	3/8	KQG2H06-03-F	17			23	17.9		27.3			
Ø 8	1/8	KQG2H08-01-F	14	—	—	24.5	21.4	16.1	26.1	12.8		
	1/4	KQG2H08-02-F				22.3	17.6			12.9		
	3/8	KQG2H08-03-F				23.7	18.6			24.7		
Ø 10	1/8	KQG2H10-01-F	17	—	—	25.5	22.4	17	26.1	18.9		
	1/4	KQG2H10-02-F				27.9	23.2			21.6		
	3/8	KQG2H10-03-F				23	17.9			41.5	20.6	
Ø 12	1/2	KQG2H10-04-F	22	—	—	28.6	22.2	18.6	58.3	51.1		
	1/4	KQG2H12-02-F	19			30.5	25.8			27.4		
	3/8	KQG2H12-03-F	19			24.7	19.6			20.5		
Ø 16	1/2	KQG2H12-04-F	22	—	—	28.7	22.3	20.8	81	44.6		
	3/8	KQG2H16-03-F	24			24.6	—			33.6	28.5	46
	1/2	KQG2H16-04-F	24			24.6	—			29.5	23.1	113

- *1 Reference dimensions after installation for R thread
- *2 Value of FEP tubing
Value of nylon tubing for Ø 16 only
- *3 In the case of M5, the screw length (L - A) is longer than that of the KQG2 series.

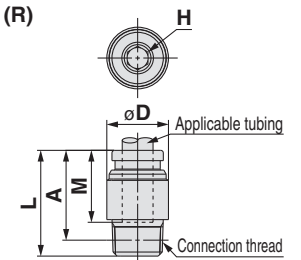
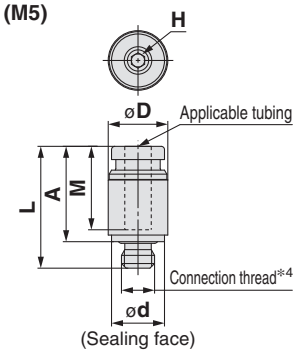


Hexagon Socket Head Male Connector: KQG2S



Applicable tubing O.D. (mm)	Connection thread R, M	Model	H (Width across flats)	Ø D*1	Ø d	L	A*2	M	Effective area [mm ²]*3	Weight [g]
Ø 3.2	M5 x 0.8	KQG2S23-M5-F	2	9	8	17.8	13.8	12	3	4.2
Ø 4	M5 x 0.8	KQG2S04-M5-F	2	9	8	18.4	14.4	12.6	4	4.1
	1/8	KQG2S04-01-F	3	10	—	19.6	16.5		4.1	7.6
Ø 6	M5 x 0.8	KQG2S06-M5-F	2	12	8	20.1	16.1	13.6	4	7.4
	1/8	KQG2S06-01-F	4			17.5	10		8.7	
	1/4	KQG2S06-02-F	4			15.9	10.7		14	
Ø 8	1/8	KQG2S08-01-F	5	14	—	24.7	21.6	16.1	17.2	12.3
	1/4	KQG2S08-02-F	6			22.9	18.2		23.3	12.8
	3/8	KQG2S08-03-F	6			23.1	18		22.8	
Ø 10	1/8	KQG2S10-01-F	5	17	—	25.6	22.5	17	17.2	17.7
	1/4	KQG2S10-02-F	8			27.5	22.8		19.1	
	3/8	KQG2S10-03-F	8			18.9	39		20.9	
	1/2	KQG2S10-04-F	22			24	17.6		37.2	
Ø 12	1/4	KQG2S12-02-F	8	19	—	30.6	25.9	18.6	46	24.8
	3/8	KQG2S12-03-F	10			19.8	60		19.3	
	1/2	KQG2S12-04-F	10			24.9	18.5		33.6	
Ø 16	3/8	KQG2S16-03-F	10	24.6	—	33.2	28.1	20.8	81	41.6
	1/2	KQG2S16-04-F	12			29.4	23		113	38.4

- *1 For the Ø 16, this dimension refers to the O.D. of the release button.
- *2 Reference dimensions after installation for R thread
- *3 Value of FEP tubing
Value of nylon tubing for Ø 16 only
- *4 In the case of M5, the screw length (L - A) is longer than that of the KQG2 series.

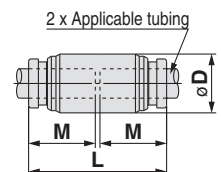


Straight Union: KQG2H



Applicable tubing O.D. [mm]	Model	Ø D*1	L	M	Effective area [mm ²]*2	Weight [g]
Ø 3.2	KQG2H23-00-F	9	25	12	3.4	6.5
Ø 4	KQG2H04-00-F	9	26.2	12.6	5.6	6.5
Ø 6	KQG2H06-00-F	12	28.2	13.6	13.1	11.5
Ø 8	KQG2H08-00-F	14	33.2	16.1	26.1	16.6
Ø 10	KQG2H10-00-F	17	35	17	41.5	26
Ø 12	KQG2H12-00-F	19	38.2	18.6	58.3	32.2
Ø 16	KQG2H16-00-F	24.6	42.6	20.8	113	53.7

- *1 For the Ø 16, this dimension refers to the O.D. of the release button.
- *2 Value of FEP tubing
Value of nylon tubing for Ø 16 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

Stainless Steel 316 One-touch Fittings

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

KQG2-F Series

*1 ISO 16030 compliant



Certified to meet current Food Sanitation Law standards

Component materials have met apparatus and container-package standards.

(This includes compliance with article 18, paragraph 3 of the amended Food Sanitation Act (June 2020) and the Ministry of Health and Welfare Notification No. 370.)

Spare Parts

Description	Tubing O.D.	Part no.	Material
Bulkhead nut	Ø 4	KQG223-P01	Stainless steel 316
	Ø 6	KQG206-P01	
	Ø 8	KQG208-P01	
	Ø 10	KQG210-P01	
	Ø 12	KQG212-P01	
	Ø 16	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	

Applicable Tubing

Tubing material*1	FEP, PFA, Nylon, Soft nylon, Polyurethane, Polyolefin
Tubing O.D.	Ø 4, Ø 6, Ø 8, Ø 10, Ø 12, Ø 16

*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 Deionised 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

Cross Reference Table of the Inner Sleeve

Tubing O.D.	Tubing material			Applicable inner sleeve	
	TUS (Soft polyurethane)	TH/THH (FEP)	TL/TIL (Super PFA)	Part no.	Length
Ø 4	—	TH0402	—	TJG-0402	18
	TUS0425	TH0425	—	TJG-0425	18
	—	—	TL0403	TJG-0403	18
Ø 6	TUS0604	TH0604	TL0604	TJG-0604	19
	TUS0805	—	—	TJG-0805	20.5
Ø 8	—	TH0806	TL0806	TJG-0806	20.5
	TUS1065	—	—	TJG-1065	23
Ø 10	—	TH1075	—	TJG-1075	23
	—	TH1008	TL1008	TJG-1008	23
	TUS1208	—	—	TJG-1208	24
Ø 12	—	TH1209	—	TJG-1209	24
	—	TH1210	TL1210	TJG-1210	24

* Stainless steel 316 is used for the TJG series.

EHEDG
Compliant

Metric M, G
KFG2H□-E
KFG2H□-C

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

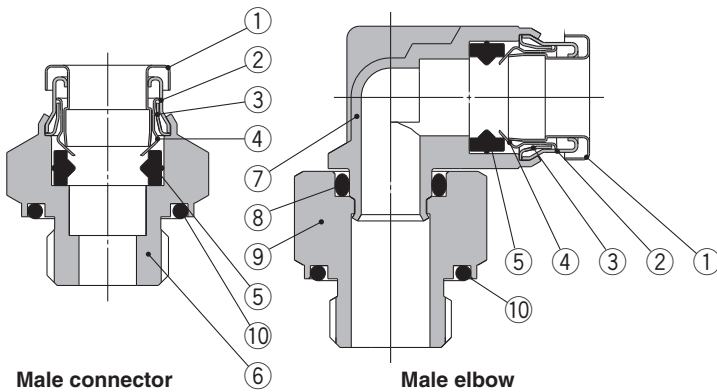
• Tubing size (Metric)

Symbol	Size
04	Ø 4
06	Ø 6
08	Ø 8
10	Ø 10
12	Ø 12
16	Ø 16

• 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**

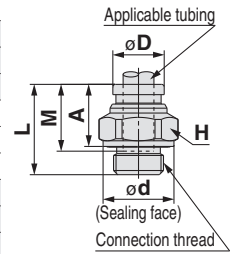
Applicable Tubing: Metric Size, Connection Thread: G

Dimensions

Male Connector: KQG2H



Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flats)	Ø D	Ø d	L	A	M	Effective area [mm ²] ^{*1}	Weight [g]
Ø 4	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
Ø 6	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
Ø 8	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
Ø 10	1/8	KQG2H10-G01-F	17	—	13.8	25.1	19.6	17	26.1	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		
Ø 12	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
Ø 16	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

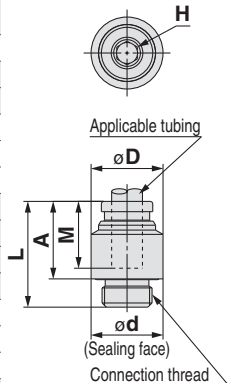


*1 Value of FEP tubing
Value of nylon tubing for Ø 16 only

Hexagon Socket Head Male Connector: KQG2S



Applicable tubing O.D. (mm)	Connection thread G	Model	H (Width across flats)	Ø D	Ø d	L	A	M	Effective area [mm ²] ^{*1}	Weight [g]
Ø 4	1/8	KQG2S04-G01-F	3	14	14	20.4	14.9	12.6	4.1	13
Ø 6	1/8	KQG2S06-G01-F	4	14	14	20.6	15.1	13.6	10	11.6
	1/4	KQG2S06-G02-F		18	18		14.1		10.7	19.1
Ø 8	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		19.2	
	3/8	KQG2S08-G03-F		22	22	23.1	15.6		29.7	
Ø 10	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		19.6	
	3/8	KQG2S10-G03-F		22	22	24	16.5	29.8		
	1/2	KQG2S10-G04-F	27	26.5	15		43.1			
Ø 12	1/4	KQG2S12-G02-F	8	19	18	27.7	21.2	18.6	46	22.7
	3/8	KQG2S12-G03-F	10	22	22	24.9	17.4		26.3	
	1/2	KQG2S12-G04-F		27	26.5	15.9	40.5			
Ø 16	3/8	KQG2S16-G03-F	10	24.6	22	31.3	23.8	20.8	81	39.4
	1/2	KQG2S16-G04-F	12	27	26.5	27.8	18.8		113	40.9



*1 Value of FEP tubing
Value of nylon tubing for Ø 16 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