

FDA Compliant Fittings

Stainless Steel 316 One-touch Fittings

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

KQG2-F 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



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.

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.

FDA compliant

Thread size, Tubing size

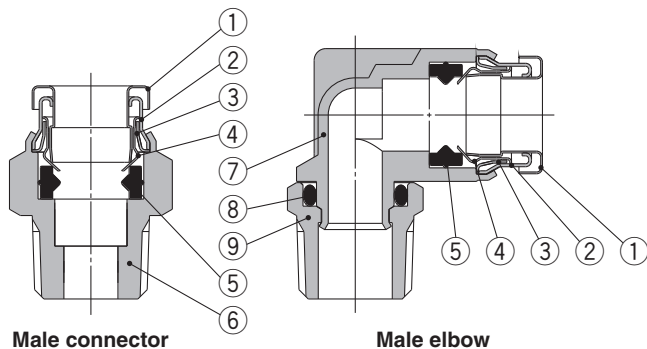
Symbol	Size	
M5	M5 x 0.8	Thread size
01	R1/8, Rc1/8	
02	R1/4, Rc1/4	
03	R3/8, Rc3/8	
04	R1/2, Rc1/2	
00	Same tubing O.D.	Tubing size
04	Ø 4	
06	Ø 6	
08	Ø 8	
10	Ø 10	
12	Ø 12	
16	Ø 16	

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

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

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**

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Dimensions

Extended Male Elbow: KQG2W



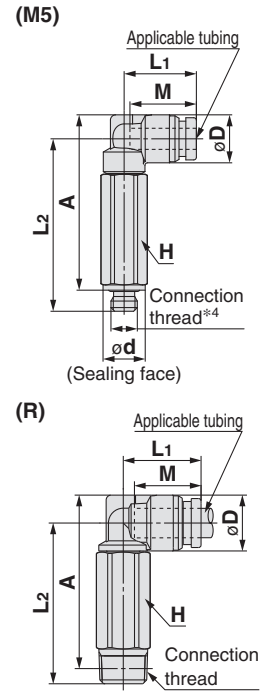
Applicable tubing O.D. (mm)	Connection thread R, M	Model	H (Width across flats)	Ø D*1	Ø d	L1	L2	A*2	M	Effective area [mm²]*3	Weight [g]
Ø 3.2	M5 x 0.8	KQG2W23-M5-F	8	8.3	8	13.1	32.3	32.5	12	2.8	13.2
	1/8	KQG2W23-01-F	10			13.6	31.3	32.3			14.7
	1/4	KQG2W23-02-F	14			35.1	34.5	33.1			
Ø 4	M5 x 0.8	KQG2W04-M5-F	8	9.1	8	13.7	32.7	33.3	12.6	3	13.8
	1/8	KQG2W04-01-F	10			14.4	31.7	33.1			15.6
	1/4	KQG2W04-02-F	14			35.5	35.3	33.9			
Ø 6	M5 x 0.8	KQG2W06-M5-F	8	11.4	8	14.7	33.8	35.5	13.6	3	15.7
	1/8	KQG2W06-01-F	10			32.8	35.4	17.2			
	1/4	KQG2W06-02-F	14			36.6	37.6	35.5			
	3/8	KQG2W06-03-F	17			38	38.6	57.4			
Ø 8	1/8	KQG2W08-01-F	12	13.7	8	18.6	37	40.7	16.1	20.5	28
	1/4	KQG2W08-02-F	14			19.1	40.2	42.3			37.7
	3/8	KQG2W08-03-F	17			41.6	43.3	60.9			
Ø 10	1/4	KQG2W10-02-F	14	16.6	8	21	46.6	50.2	17	33.5	40.7
	3/8	KQG2W10-03-F	17			45.9	49.1	61.9			
	1/2	KQG2W10-04-F	22			50.1	52	117.3			
Ø 12	1/4	KQG2W12-02-F	14	18.7	8	22.6	47.7	52.3	18.6	47.7	44.6
	3/8	KQG2W12-03-F	17			23.6	49	53.2			56.3
	1/2	KQG2W12-04-F	22			53.2	56.1	112.9			
Ø 16	3/8	KQG2W16-03-F	19	24.6	8	26.3	57.6	64.1	20.8	71	86.6
	1/2	KQG2W16-04-F	22			27.3	61.4	66.6			100

*1 For the Ø 16, this dimension refers to the O.D. of the release button.

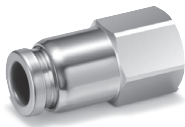
*2 Reference dimensions after installation for R thread

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

*4 In the case of M5, the screw length (Ø D/2 + L2 - A) is longer than that of the KQG2 series.



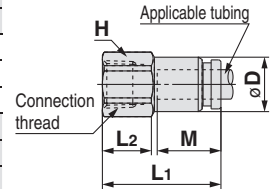
Female Connector: KQG2F



Applicable tubing O.D. (mm)	Connection thread Rc	Model	H (Width across flats)	Ø D*1	L1	L2	M	Effective area [mm²]*2	Weight [g]
Ø 3.2	1/8	KQG2F23-01-F	12	8	23.3	9.8	12	3.4	8.9
Ø 4	1/8	KQG2F04-01-F	12	8.7	23.7	9.8	12.6	5.6	9.2
	1/4	KQG2F04-02-F	17		28.7	13.2			21.6
Ø 6	1/8	KQG2F06-01-F	12	11.1	24.2	10	13.6	13.1	10.5
	1/4	KQG2F06-02-F	17		29.2	13.4			23.1
	3/8	KQG2F06-03-F	19		30.6	14.2			24.5
Ø 8	1/8	KQG2F08-01-F	14	13.4	26.3	9.6	16.1	26.1	16.3
	1/4	KQG2F08-02-F	17		31.3	13.7			25.5
	3/8	KQG2F08-03-F	19		32.7	14.4			27
Ø 10	1/4	KQG2F10-02-F	17	16.4	31.6	13.9	17	41.5	28.8
	3/8	KQG2F10-03-F	19		33	14.7			30.4
Ø 12	1/4	KQG2F12-02-F	17	18.5	32.6	13.3	18.6	58.3	37.5
	3/8	KQG2F12-03-F	19		34	14.7			32.3
	1/2	KQG2F12-04-F	24		39.3	18.4			50.2
Ø 16	3/8	KQG2F16-03-F	24	24.6	35.3	13.5	20.8	81	59.7
	1/2	KQG2F16-04-F	24		40.6	18.8			113

*1 For the Ø 10, Ø 12, and Ø 16, this dimension refers to the O.D. of the release button.

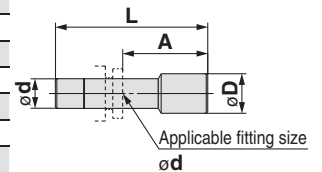
*2 Value of FEP tubing
Value of nylon tubing for Ø 16 only



Plug: KQG2P



Applicable fitting size Ø d	Model	Ø D	L	A	Weight [g]
Ø 3.2	KQG2P-23	5	28.9	16.9	2.7
Ø 4	KQG2P-04	6	29.6	17	4.1
Ø 6	KQG2P-06	8	30.8	17.2	8.5
Ø 8	KQG2P-08	10	33.7	17.6	15.5
Ø 10	KQG2P-10	12	34.6	17.6	24.1
Ø 12	KQG2P-12	14	36.5	17.9	35.8
Ø 16	KQG2P-16	18	38.6	17.8	65.5



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