

High Purity Fluoropolymer Fittings Hyper Fitting/Flare Type



Series LQ3

Flare type
collet
construction

Triple-seal

Ease of
installation

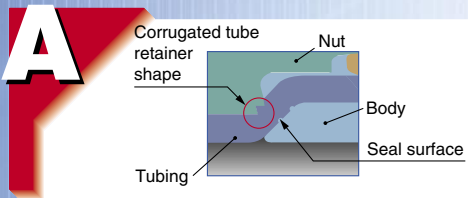
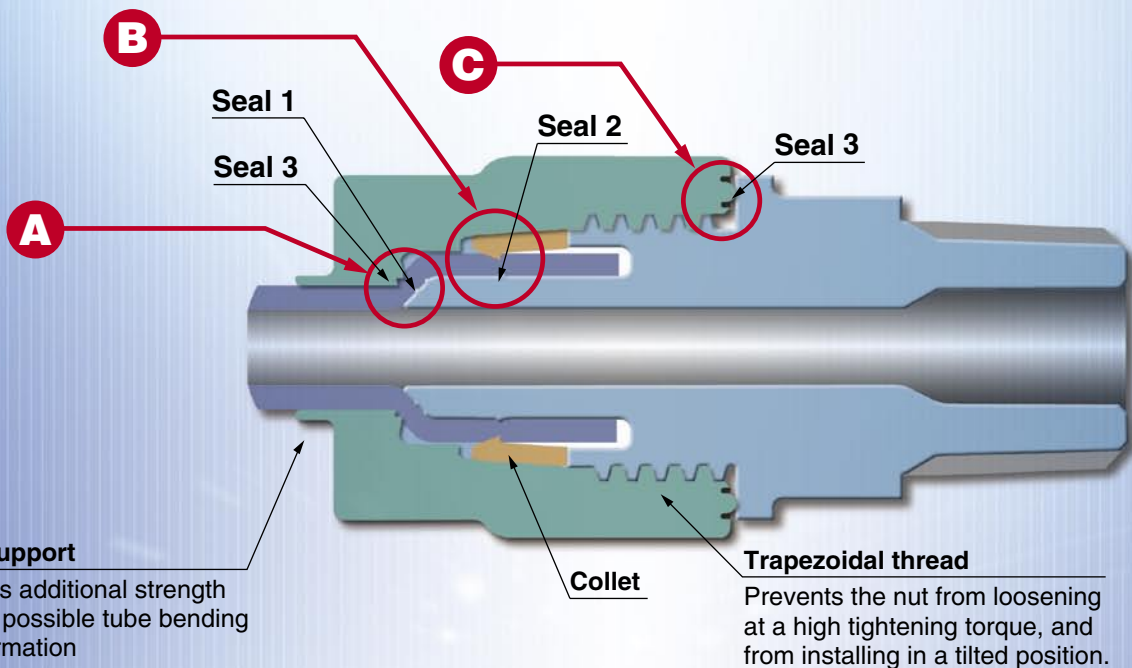
Excellent
heat
resistance

200°C
compatible

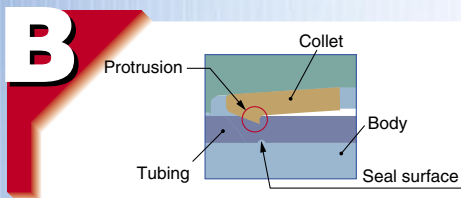
Excellent
flow-through
character-
istics

Feature		Model	LQ3□10	LQ3□20	LQ3□30	LQ3□40	LQ3□50	LQ3□60
Material			New PFA					
Maximum operating pressure (at 20°C)			1.0 MPa					
Operating temperature	Nut material PVDF		0 to 150°C					
	Nut material PFA		0 to 200°C					
Applicable tubing size	Metric		ø3 to ø25					
	Inch		1/8 to 1					

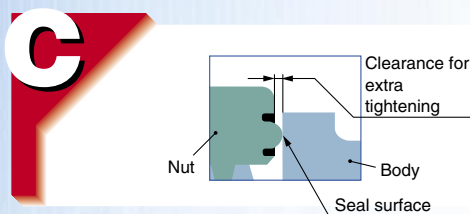
Triple-Seal Construction



- The nut has corrugated tube retainer shape that is made from a two-stage structure, enabling it to hold the tube firmly.
- The fitting's sealing surface with the tubing adopts a unique design to increase the surface pressure, resulting in improved sealing performance.

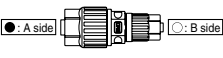
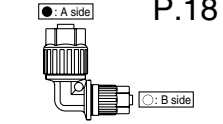
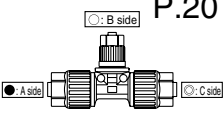


- Improving the prevention of tube release by means of a collet structure.
- The sealing performance is maintained with a circumferential seal surface having a unique shape, even under thermal stress conditions.

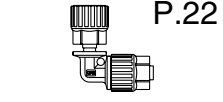
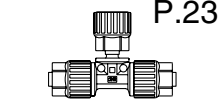
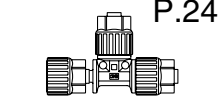
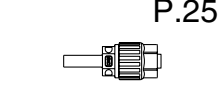


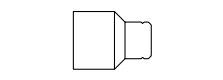
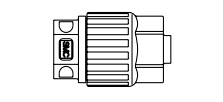
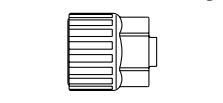
- To establish the correct tightening position, a torque gauge is not required as the nut is designed to be tightened up until the end surface of the fitting's main body.

Series LQ3

Series	Appearance	Size	Tubing O.D.													
			Metric size							Inch size						
			ø3	ø4	ø6	ø8	ø10	ø12	ø19	ø25	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Union reducing LQ3U-R	 P.16	1	○	●	—	—	—	—	—	—	—	—	—	—	—	—
		2	○	○	●	—	—	—	—	—	○	●	—	—	—	—
		3	—	○	○	●/○	●	—	—	—	○	○	●	—	—	—
		4	—	—	—	○	○	●	—	—	—	○	○	●	—	—
		5	—	—	—	—	○	○	●	—	—	○	○	○	●	—
		6	—	—	—	—	—	○	○	●	—	—	—	○	○	○
Union elbow reducing LQ3E-R	 P.18	1	○	●	—	—	—	—	—	—	—	—	—	—	—	—
		2	○	○	●	—	—	—	—	—	○	●	—	—	—	—
		3	—	○	○	●/○	●	—	—	—	○	○	●	—	—	—
		4	—	—	—	○	○	●	—	—	—	○	○	●	—	—
		5	—	—	—	—	○	○	●	—	—	○	○	○	●	—
		6	—	—	—	—	—	○	○	●	—	—	—	○	○	○
Union tee reducing LQ3T-R	 P.20	1	○/○	●/○/○	—	—	—	—	—	—	—	—	—	—	—	—
		2	○/○	○/○	●/○/○	—	—	—	—	—	○/○	●/○/○	—	—	—	—
		3	—	—	○/○	●/○/○	●/○/○	—	—	—	○	●/○/○	●/○/○	—	—	—
		4	—	—	—	—	○/○	●/○/○	—	—	—	○/○	●/○/○	●/○/○	—	—
		5	—	—	—	—	—	○/○	●/○/○	—	—	○/○	●/○/○	●/○/○	●/○/○	—
		6	—	—	—	—	—	—	○/○	●/○/○	—	○/○	○/○	●/○/○	●/○/○	●/○/○

Note) ● : A side tubing O.D. ○ : B side tubing O.D. ○/○ : C side tubing O.D.

Series	Appearance	Size	Tubing O.D.													
			Metric size							Inch size						
			ø3	ø4	ø6	ø8	ø10	ø12	ø19	ø25	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Space saving union elbow LQ3E-S	 P.22	2	—	—	●	—	—	—	—	—	—	●	—	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	●	—	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	●	—	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	●	—
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	—	●	—	—	—	—	—
Space saving branch tee LQ3T-SB	 P.23	2	—	—	●	—	—	—	—	—	—	●	—	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	●	—	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	●	—	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	●	—
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	—	●	—	—	—	—	—
Space saving run tee LQ3T-SR	 P.24	2	—	—	●	—	—	—	—	—	—	●	—	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	●	—	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	●	—	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	●	—
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	—	●	—	—	—	—	—
Tube extension straight connector LQ3H-T	 P.25	2	—	—	●	—	—	—	—	—	—	●	—	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	●	—	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	●	—	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	●	—
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	—	●	—	—	—	—	—

Series	Appearance	Size	Tubing O.D.													
			Metric size							Inch size						
			ø3	ø4	ø6	ø8	ø10	ø12	ø19	ø25	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Blanking plug LQ3-P-1	 P.26	1	●	●	—	—	—	—	—	—	—	●	—	—	—	—
		2	—	—	●	—	—	—	—	—	—	—	●	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	—	●	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	—	●	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	—
Tubing plug LQ3-P-2	 P.26	1	●	●	—	—	—	—	—	—	—	●	—	—	—	—
		2	—	—	●	—	—	—	—	—	—	—	●	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	—	●	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	—	●	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	—
Nut LQ3-N	 P.26	1	●	●	—	—	—	—	—	—	—	●	—	—	—	—
		2	—	—	●	—	—	—	—	—	—	—	●	—	—	—
		3	—	—	—	●	●	—	—	—	—	—	—	●	—	—
		4	—	—	—	—	—	●	—	—	—	—	—	—	●	—
		5	—	—	—	—	—	—	●	—	—	—	—	—	—	●
		6	—	—	—	—	—	—	—	●	—	—	—	—	—	—

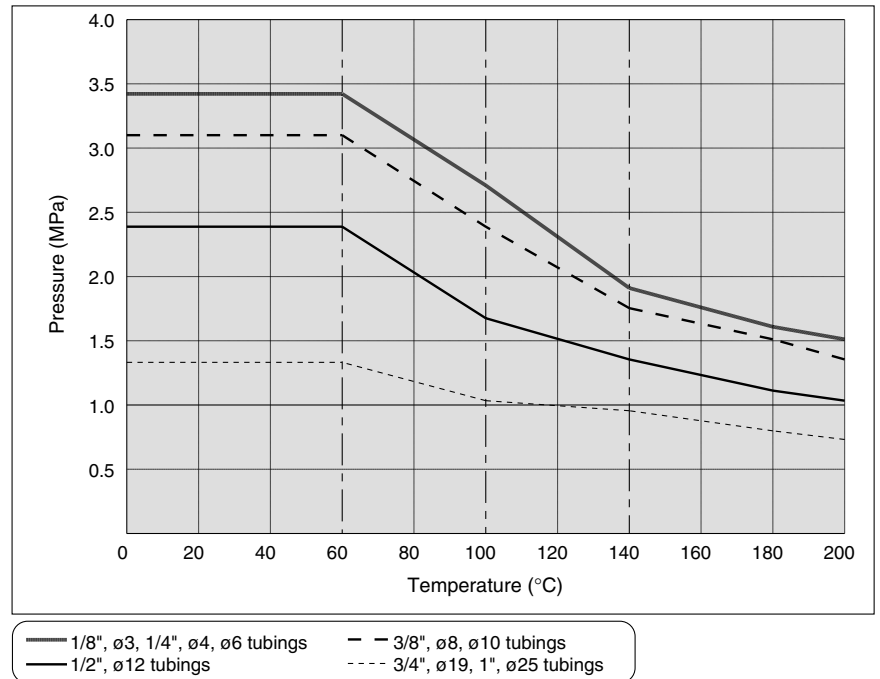
High Purity Fluoropolymer Fittings Hyper Fitting / Flare Type Series **LQ3**



Specifications

Feature	Model	LQ3□10	LQ3□20	LQ3□30	LQ3□40	LQ3□50	LQ3□60
Material		New PFA					
Maximum operating pressure (at 20°C)		1.0 MPa					
Proof pressure		Refer to the withstand pressure and heat resistance performance data.					
Operating temperature	Nut material PVDF	0 to 150°C					
	Nut material PFA	0 to 200°C					

Withstand Pressure and Heat Resistance Performance



How to Order

Threaded connection

LQ3 **H** **11** **M**

Fitting type

Symbol	Type
H	Connector
L	Elbow
B	Branch tee
R	Run tee

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Thread type

Symbol	Type
-	R, Rc
N	NPT

Piping type

Symbol	Type
M	Male
F	Female

Size combination

Size	No.	Applicable tubing size (mm)	Port size
1	1	4 x 3	1/8"
1	2	3 x 2	
2	1	6 x 4	1/8"
2	2		1/4"
3	1	10 x 8	1/8"
3	2	8 x 6	
3	3	10 x 8	1/4"
3	4	8 x 6	
3	5	10 x 8	3/8"
3	6	8 x 6	
4	1	12 x 10	1/4"
4	2		3/8"
4	3		1/2"
5	1	19 x 16	3/8"
5	2		1/2"
5	3		3/4"
6	1	25 x 22	1/2"
6	2		3/4"
6	3		1"

Size	Symbol	Applicable tubing size (inch)	Port size
1	A	1/8" x 0.086"	1/8"
2	A	1/4" x 5/32"	1/8"
2	B		1/4"
3	A	3/8" x 1/4"	1/8"
3	B		1/4"
3	C		3/8"
4	A	1/2" x 3/8"	1/4"
4	B		3/8"
4	C		1/2"
5	A	3/4" x 5/8"	3/8"
5	B		1/2"
5	C		3/4"
6	A	1" x 7/8"	1/2"
6	B		3/4"
6	C		1"

How to Order

Tubing connection

LQ3 E 11 — 

Fitting type

Symbol	Type
E	Union elbow
T	Union tee
P	Panel mount union
U	Union

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Size combination

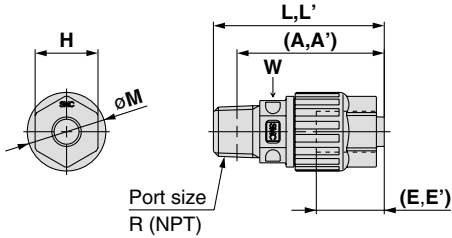
Size	No.	Applicable tubing size (mm)
1	1	4 x 3
1	2	3 x 2
2	1	6 x 4
3	1	10 x 8
3	2	8 x 6
4	1	12 x 10
5	1	19 x 16
6	1	25 x 22

Size	Symbol	Applicable tubing size (inch)
1	A	1/8" x 0.086"
2	A	1/4" x 5/32"
3	A	3/8" x 1/4"
4	A	1/2" x 3/8"
5	A	3/4" x 5/8"
6	A	1" x 7/8"

Series LQ3

Dimensions

Male connector: LQ3H-M



- (A,A'): Reference dimension after installation.
 (E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
 (A'),L',E': Nut material PVDF dimensions.
 W: Width across flats dimension.

Metric Size

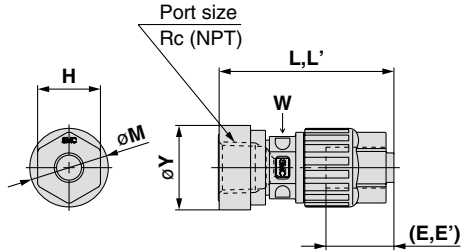
Model	Applicable tubing O.D.	Connection threads R/NPT	A	A'	E	E'	H	L	L'	M	W
LQ3H11-M□	∅4	1/8"	29.5	28.5	10	9	11	33.5	32.5	14	10
LQ3H12-M□	∅3										
LQ3H21-M□	∅6	1/8"	39.5	38.5	17	16	16	43.5	42.5	20	14
LQ3H22-M□		1/4"	37.5	36.5							
LQ3H31-M□	∅10	1/8"	51	48	22.5	19.5	21	55	52	25	18
LQ3H32-M□	∅8										
LQ3H33-M□	∅10	1/4"	49	46	22.5	19.5	21	55	52	25	18
LQ3H34-M□	∅8										
LQ3H35-M□	∅10	3/8"	48.5	45.5	24	22	24	64	62	29	22
LQ3H36-M□	∅8										
LQ3H41-M□	∅12	1/4"	58	56	24	22	24	64	62	29	22
LQ3H42-M□		3/8"	57.5	55.5							
LQ3H43-M□		1/2"	56	54							
LQ3H51-M□	∅19	3/8"	69.5	67	26.5	24	32	76	73.5	37	30
LQ3H52-M□		1/2"	68	65.5							
LQ3H53-M□		3/4"	66.5	64							
LQ3H61-M□	∅25	1/2"	80	76	30	26	41	88	84	49	36
LQ3H62-M□		3/4"	78.5	74.5							
LQ3H63-M□		1"	77.5	73.5							

Inch Size

Model	Applicable tubing O.D.	Connection threads R/NPT	A	A'	E	E'	H	L	L'	M	W
LQ3H1A-M□	1/8"	1/8"	29.5	28.5	10	9	11	33.5	32.5	14	10
LQ3H2A-M□	1/4"	1/8"	39.5	38.5	17	16	16	43.5	42.5	20	14
LQ3H2B-M□		1/4"	37.5	36.5							
LQ3H3A-M□	3/8"	1/8"	51	48	22.5	19.5	21	55	52	25	18
LQ3H3B-M□		1/4"	49	46							
LQ3H3C-M□		3/8"	48.5	45.5							
LQ3H4A-M□	1/2"	1/4"	58	56	24.5	22.5	24	64	62	29	22
LQ3H4B-M□		3/8"	57.5	55.5							
LQ3H4C-M□		1/2"	56	54							
LQ3H5A-M□	3/4"	3/8"	69.5	67	26.5	24	32	76	73.5	37	30
LQ3H5B-M□		1/2"	68	65.5							
LQ3H5C-M□		3/4"	66.5	64							
LQ3H6A-M□	1"	1/2"	80	76	30	26	41	88	84	49	36
LQ3H6B-M□		3/4"	78.5	74.5							
LQ3H6C-M□		1"	77.5	73.5							

Dimensions

Female connector: LQ3H-F



(E, E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'), L': Nut material PVDF dimensions.
W: Width across flats dimension.

Metric Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	E	E'	H	L	L'	M	W	Y
LQ3H11-F□	ø4	1/8"	10	9	11	35	34	14	10	18.5
LQ3H12-F□	ø3									
LQ3H21-F□	ø6	1/8"	17	16	16	40	39	20	14	18.5
LQ3H22-F□		1/4"				45	44			21.5
LQ3H31-F□	ø10	1/8"	22.5	19.5	21	50.5	47.5	25	18	18.5
LQ3H32-F□	ø8					55	52			
LQ3H33-F□	ø10	1/4"	22.5	19.5	21	55.5	52.5	25	18	21.5
LQ3H34-F□	ø8									
LQ3H35-F□	ø10	3/8"	24	22	24	55.5	53.5	29	22	25
LQ3H36-F□	ø8									
LQ3H41-F□	ø12	1/4"	24	22	24	55.5	53.5	29	22	21.5
LQ3H42-F□		3/8"				58	56			25
LQ3H43-F□		1/2"				66	64			29.5
LQ3H51-F□	ø19	3/8"	26.5	24	32	67	64.5	37	30	25
LQ3H52-F□		1/2"				72	69.5			29.5
LQ3H53-F□		3/4"				73.5	71			36
LQ3H61-F□	ø25	1/2"	30	26	41	81.5	77.5	49	36	29.5
LQ3H62-F□		3/4"				83	79			36
LQ3H63-F□		1"				90.5	86.5			44.5

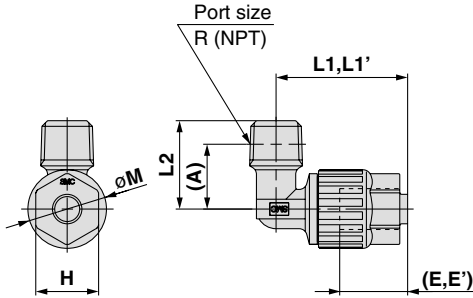
Inch Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	E	E'	H	L	L'	M	W	Y
LQ3H1A-F□	1/8"	1/8"	10	9	11	35	34	14	10	18.5
LQ3H2A-F□	1/4"	1/8"	17	16	16	40	39	20	14	18.5
LQ3H2B-F□		1/4"				45	44			21.5
LQ3H3A-F□	3/8"	1/8"	22.5	19.5	21	50.5	47.5	25	18	18.5
LQ3H3B-F□		1/4"				55	52			21.5
LQ3H3C-F□	3/8"	3/8"	22.5	19.5	21	55.5	52.5	25	18	25
LQ3H4A-F□	1/2"	1/4"	24.5	22.5	24	55.5	53.5	29	22	21.5
LQ3H4B-F□		3/8"				58	56			25
LQ3H4C-F□		1/2"				66	64			29.5
LQ3H5A-F□	3/4"	3/8"	26.5	24	32	67	64.5	37	30	25
LQ3H5B-F□		1/2"				72	69.5			29.5
LQ3H5C-F□		3/4"				73.5	71			36
LQ3H6A-F□	1"	1/2"	30	26	41	81.5	77.5	49	36	29.5
LQ3H6B-F□		3/4"				83	79			36
LQ3H6C-F□		1"				90.5	86.5			44.5

Series LQ3

Dimensions

Male elbow: LQ3L-M



- (A): Reference dimension after installation.
 (E, E'): Reference dimension for the inserted tubing from the end surface of the nut.
 (E'), L1': Nut material PVDF dimensions.

Metric Size

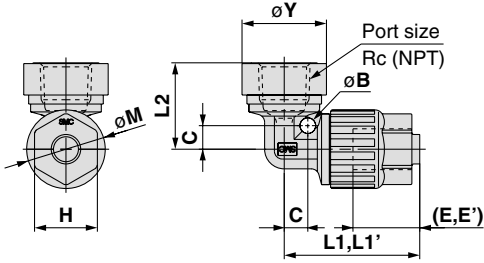
Model	Applicable tubing O.D.	Connection threads R/NPT	A	E	E'	H	L1	L1'	L2	M
LQ3L11-M□	ø4	1/8"	12.5	10	9	11	26	25	16.5	14
LQ3L12-M□	ø3									
LQ3L21-M□	ø6	1/8"	18.5	17	16	16	33.5	32.5	22.5	20
LQ3L22-M□		1/4"								
LQ3L31-M□	ø10	1/8"	24	22.5	19.5	21	46	43	28	25
LQ3L32-M□	ø8									
LQ3L33-M□	ø10	1/4"	22	22.5	19.5	21	46	43	28	25
LQ3L34-M□	ø8									
LQ3L35-M□	ø10	3/8"	21.5	24	22	24	54.5	52.5	33	29
LQ3L36-M□	ø8									
LQ3L41-M□	ø12	1/4"	27	24	22	24	54.5	52.5	33	29
LQ3L42-M□		3/8"								
LQ3L43-M□	ø19	1/2"	25	26.5	24	32	64	61.5	40	37
LQ3L51-M□		3/8"								
LQ3L52-M□	ø19	1/2"	32	26.5	24	32	64	61.5	40	37
LQ3L53-M□		3/4"								
LQ3L61-M□	ø25	1/2"	38	30	26	41	77	73	46	49
LQ3L62-M□		3/4"								
LQ3L63-M□		1"								

Inch Size

Model	Applicable tubing O.D.	Connection threads R/NPT	A	E	E'	H	L1	L1'	L2	M
LQ3L1A-M□	1/8"	1/8"	12.5	10	9	11	26	25	16.5	14
LQ3L2A-M□	1/4"	1/8"	18.5	17	16	16	33.5	32.5	22.5	20
LQ3L2B-M□		1/4"								
LQ3L3A-M□	3/8"	1/8"	24	22.5	19.5	21	46	43	28	25
LQ3L3B-M□		1/4"								
LQ3L3C-M□	3/8"	3/8"	21.5	24.5	22.5	24	54.5	52.5	33	29
LQ3L4A-M□		1/4"								
LQ3L4B-M□	1/2"	3/8"	26.5	24.5	22.5	24	54.5	52.5	33	29
LQ3L4C-M□		1/2"								
LQ3L5A-M□	3/4"	3/8"	33.5	26.5	24	32	64	61.5	40	37
LQ3L5B-M□		1/2"								
LQ3L5C-M□	3/4"	3/4"	30.5	30	26	41	77	73	46	49
LQ3L6A-M□		1/2"								
LQ3L6B-M□	1"	3/4"	36.5	30	26	41	77	73	46	49
LQ3L6C-M□		1"								

Dimensions

Female elbow: LQ3L-F



(E, E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'), L1': Nut material PVDF dimensions.

Metric Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	C	E	E'	H	L1	L1'	L2	M	Y
LQ3L11-F□	ø4	1/8"	3.5	4.8	10	9	11	28.5	27.5	19.5	14	18.5
LQ3L12-F□	ø3											
LQ3L21-F□	ø6	1/8"	4	6	17	16	16	34.5	33.5	20	20	18.5
LQ3L22-F□		1/4"								22		21.5
LQ3L31-F□	ø10	1/8"								23		18.5
LQ3L32-F□	ø8											
LQ3L33-F□	ø10	1/4"	5	9	22.5	19.5	21	47.5	44.5	24	25	21.5
LQ3L34-F□	ø8											
LQ3L35-F□	ø10	3/8"								25.5		25
LQ3L36-F□	ø8											
LQ3L41-F□	ø12	1/4"	6	10	24	22	24	52.5	50.5	23.5	29	21.5
LQ3L42-F□		3/8"								26		25
LQ3L43-F□		1/2"								30		29.5
LQ3L51-F□	ø19	3/8"	7	14	26.5	24	32	64	61.5	30.5	37	25
LQ3L52-F□		1/2"								35.5		29.5
LQ3L53-F□		3/4"								37		36
LQ3L61-F□	ø25	1/2"	8	18	30	26	41	78	74	41	49	29.5
LQ3L62-F□		3/4"								42.5		36
LQ3L63-F□		1"								46		44.5

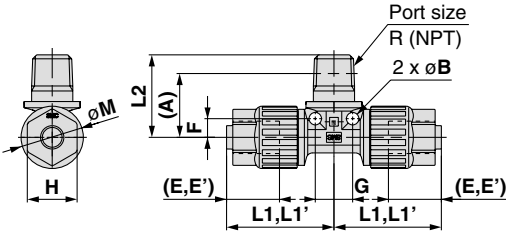
Inch Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	C	E	E'	H	L1	L1'	L2	M	Y
LQ3L1A-F□	1/8"	1/8"	3.5	4.8	10	9	11	28.5	27.5	19.5	14	18.5
LQ3L2A-F□	1/4"	1/8"	4	6	17	16	16	34.5	33.5	20	20	18.5
LQ3L2B-F□		1/4"								22		21.5
LQ3L3A-F□	3/8"	1/8"	5	9	22.5	19.5	21	47.5	44.5	23	25	18.5
LQ3L3B-F□		1/4"								24		21.5
LQ3L3C-F□		3/8"								25.5		25
LQ3L4A-F□	1/2"	1/4"	6	10	24.5	22.5	24	52.5	50.5	23.5	29	21.5
LQ3L4B-F□		3/8"								26		25
LQ3L4C-F□		1/2"								30		29.5
LQ3L5A-F□	3/4"	3/8"	7	14	26.5	24	32	64	61.5	30.5	37	25
LQ3L5B-F□		1/2"								35.5		29.5
LQ3L5C-F□		3/4"								37		36
LQ3L6A-F□	1"	1/2"	8	18	30	26	41	78	74	41	49	29.5
LQ3L6B-F□		3/4"								42.5		36
LQ3L6C-F□		1"								46		44.5

Series LQ3

Dimensions

Male branch tee: LQ3B-M



(A): Reference dimension after installation.
 (E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
 E',L1': Nut material PVDF dimensions.

Metric Size

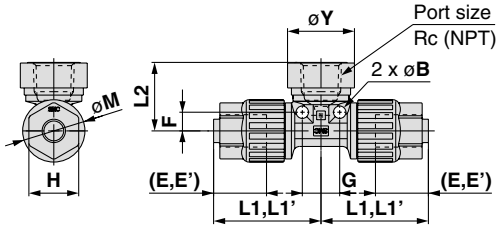
Model	Applicable tubing O.D.	Connection threads R/NPT	A	B	E	E'	F	G	H	L1	L1'	L2	M
LQ3B11-M□	ø4	1/8"	15	3.5	10	9	4.8	9.5	11	28.5	27.5	19	14
LQ3B12-M□	ø3												
LQ3B21-M□	ø6	1/8"	19.5	4	17	16	6	12	16	34.5	33.5	23.5	20
LQ3B22-M□		1/4"											
LQ3B31-M□	ø10	1/8"	22.5										
LQ3B32-M□	ø8												
LQ3B33-M□	ø10												
LQ3B34-M□	ø8	1/4"	23.5	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25
LQ3B35-M□	ø10												
LQ3B36-M□	ø8	3/8"	24									30.5	
LQ3B41-M□	ø12	1/4"	27	6	24	22	10	20	24	52.5	50.5	34	29
LQ3B42-M□		3/8"	27.5										
LQ3B43-M□		1/2"	29										
LQ3B51-M□	ø19	3/8"	32.5	7	26.5	24	14	28	32	64	61.5	42	37
LQ3B52-M□		1/2"	34										
LQ3B53-M□		3/4"	34.5										
LQ3B61-M□	ø25	1/2"	42	8	30	26	18	36	41	78	74	50	49
LQ3B62-M□		3/4"	42.5										
LQ3B63-M□		1"											

Inch Size

Model	Applicable tubing O.D.	Connection threads R/NPT	A	B	E	E'	F	G	H	L1	L1'	L2	M	
LQ3B1A-M□	1/8"	1/8"	15	3.5	10	9	4.8	9.5	11	28.5	27.5	19	14	
LQ3B2A-M□	1/4"	1/8"	19.5	4	17	16	6	12	16	34.5	33.5	23.5	20	
LQ3B2B-M□		1/4"												20.5
LQ3B3A-M□	3/8"	1/8"	22.5	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25	
LQ3B3B-M□		1/4"												23.5
LQ3B3C-M□		3/8"												
LQ3B4A-M□	1/2"	1/4"	27	6	24.5	22.5	10	20	24	52.5	50.5	34	29	
LQ3B4B-M□		3/8"												27.5
LQ3B4C-M□		1/2"												
LQ3B5A-M□	3/4"	3/8"	32.5	7	26.5	24	14	28	32	64	61.5	42	37	
LQ3B5B-M□		1/2"												34
LQ3B5C-M□		3/4"												
LQ3B6A-M□	1"	1/2"	42	8	30	26	18	36	41	78	74	50	49	
LQ3B6B-M□		3/4"												42.5
LQ3B6C-M□		1"												

Dimensions

Female branch tee: LQ3B-F



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L1': Nut material PVDF dimensions.

Metric Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	E	E'	F	G	H	L1	L1'	L2	M	Y
LQ3B11-F□	ø4	1/8"	3.5	10	9	4.8	9.5	11	28.5	27.5	19.5	14	18.5
LQ3B12-F□	ø3												
LQ3B21-F□	ø6	1/8"	4	17	16	6	12	16	34.5	33.5	20	20	18.5
LQ3B22-F□		1/4"									22		21.5
LQ3B31-F□	ø10	1/8"									23		18.5
LQ3B32-F□	ø8												
LQ3B33-F□	ø10	1/4"	5	22.5	19.5	9	18	21	47.5	44.5	24	25	21.5
LQ3B34-F□	ø8												
LQ3B35-F□	ø10	3/8"									25.5		25
LQ3B36-F□	ø8												
LQ3B41-F□	ø12	1/4"	6	24	22	10	20	24	52.5	50.5	23.5	29	21.5
LQ3B42-F□		3/8"									26		25
LQ3B43-F□		1/2"									30		29.5
LQ3B51-F□	ø19	3/8"	7	26.5	24	14	28	32	64	61.5	30.5	37	25
LQ3B52-F□		1/2"									35.5		29.5
LQ3B53-F□		3/4"									37		36
LQ3B61-F□	ø25	1/2"	8	30	26	18	36	41	78	74	41	49	29.5
LQ3B62-F□		3/4"									42.5		36
LQ3B63-F□		1"									46		44.5

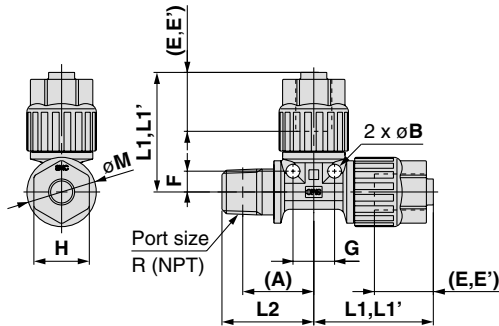
Inch Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	E	E'	F	G	H	L1	L1'	L2	M	Y
LQ3B1A-F□	1/8"	1/8"	3.5	10	9	4.8	9.5	11	28.5	27.5	19.5	14	18.5
LQ3B2A-F□	1/4"	1/8"	4	17	16	6	12	16	34.5	33.5	20	20	18.5
LQ3B2B-F□		1/4"									22		21.5
LQ3B3A-F□	3/8"	1/8"	5	22.5	19.5	9	18	21	47.5	44.5	23	25	18.5
LQ3B3B-F□		1/4"									24		21.5
LQ3B3C-F□	3/8"	3/8"									25.5		25
LQ3B4A-F□	1/2"	1/4"	6	24.5	22.5	10	20	24	52.5	50.5	23.5	29	21.5
LQ3B4B-F□		3/8"									26		25
LQ3B4C-F□		1/2"									30		29.5
LQ3B5A-F□	3/4"	3/8"	7	26.5	24	14	28	32	64	61.5	30.5	37	25
LQ3B5B-F□		1/2"									35.5		29.5
LQ3B5C-F□		3/4"									37		36
LQ3B6A-F□	1"	1/2"	8	30	26	18	36	41	78	74	41	49	29.5
LQ3B6B-F□		3/4"									42.5		36
LQ3B6C-F□		1"									46		44.5

LQ3 Series

Dimensions

Male run tee: LQ3R-M



- (A): Reference dimension after installation.
 (E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
 (E'),L': Nut material PVDF dimensions.

Metric Size

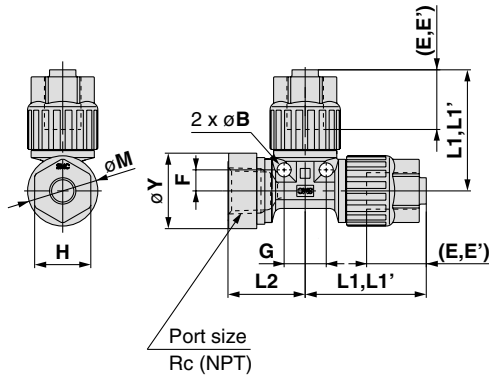
Model	Applicable tubing O.D.	Connection threads R/NPT	A	B	E	E'	F	G	H	L1	L1'	L2	M	
LQ3R11-M□	ø4	1/8"	15	3.5	10	9	4.8	9.5	11	28.5	27.5	19	14	
LQ3R12-M□	ø3													
LQ3R21-M□	ø6	1/8"	19.5	4	17	16	6	12	16	34.5	33.5	23.5	20	
LQ3R22-M□		1/4"												20.5
LQ3R31-M□	ø10	1/8"	22.5	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25	
LQ3R32-M□	ø8													
LQ3R33-M□	ø10	1/4"	23.5	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25	
LQ3R34-M□	ø8													
LQ3R35-M□	ø10	3/8"	24	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25	
LQ3R36-M□	ø8													
LQ3R41-M□	ø12	1/4"	27	6	24	22	10	20	24	52.5	50.5	34	29	
LQ3R42-M□		3/8"												27.5
LQ3R43-M□		1/2"												29
LQ3R51-M□	ø19	3/8"	32.5	7	26.5	24	14	28	32	64	61.5	42	37	
LQ3R52-M□		1/2"												34
LQ3R53-M□		3/4"												34.5
LQ3R61-M□	ø25	1/2"	42	8	30	26	18	36	41	78	74	50	49	
LQ3R62-M□		3/4"												42.5
LQ3R63-M□		1"												42.5

Inch Size

Model	Applicable tubing O.D.	Connection threads R/NPT	A	B	E	E'	F	G	H	L1	L1'	L2	M	
LQ3R1A-M□	1/8"	1/8"	15	3.5	10	9	4.8	9.5	11	28.5	27.5	19	14	
LQ3R2A-M□	1/4"	1/8"	19.5	4	17	16	6	12	16	34.5	33.5	23.5	20	
LQ3R2B-M□		1/4"												20.5
LQ3R3A-M□	3/8"	1/8"	22.5	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25	
LQ3R3B-M□		1/4"												23.5
LQ3R3C-M□	3/8"	24	5	22.5	19.5	9	18	21	47.5	44.5	29.5	25		
LQ3R4A-M□	1/2"	1/4"	27	6	24.5	22.5	10	20	24	52.5	50.5	34	29	
LQ3R4B-M□		3/8"												27.5
LQ3R4C-M□		1/2"												29
LQ3R5A-M□	3/4"	3/8"	32.5	7	26.5	24	14	28	32	64	61.5	42	37	
LQ3R5B-M□		1/2"												34
LQ3R5C-M□		3/4"												34.5
LQ3R6A-M□	1"	1/2"	42	8	30	26	18	36	41	78	74	50	49	
LQ3R6B-M□		3/4"												42.5
LQ3R6C-M□		1"												42.5

Dimensions

Female run tee: LQ3R-F



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L1': Nut material PVDF dimensions.

Metric Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	E	E'	F	G	H	L1	L1'	L2	M	Y
LQ3R11-F□	ø4	1/8"	3.5	10	9	4.8	9.5	11	28.5	27.5	19.5	14	18.5
LQ3R12-F□	ø3												
LQ3R21-F□	ø6	1/8"	4	17	16	6	12	16	34.5	33.5	20	20	18.5
LQ3R22-F□		1/4"									22		21.5
LQ3R31-F□	ø10	1/8"									23		18.5
LQ3R32-F□	ø8												
LQ3R33-F□	ø10	1/4"	5	22.5	19.5	9	18	21	47.5	44.5	24	25	21.5
LQ3R34-F□	ø8												
LQ3R35-F□	ø10	3/8"									25.5		25
LQ3R36-F□	ø8												
LQ3R41-F□	ø12	1/4"	6	24	22	10	20	24	52.5	50.5	23.5	29	21.5
LQ3R42-F□		3/8"									26		25
LQ3R43-F□		1/2"									30		29.5
LQ3R51-F□	ø19	3/8"	7	26.5	24	14	28	32	64	61.5	30.5	37	25
LQ3R52-F□		1/2"									35.5		29.5
LQ3R53-F□		3/4"									37		36
LQ3R61-F□	ø25	1/2"	8	30	26	18	36	41	78	74	41	49	29.5
LQ3R62-F□		3/4"									42.5		36
LQ3R63-F□		1"									46		44.5

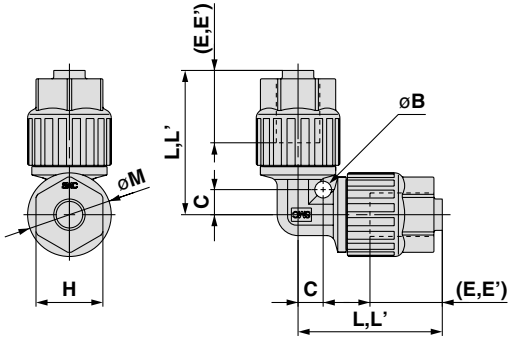
Inch Size

Model	Applicable tubing O.D.	Connection threads Rc/NPT	B	E	E'	F	G	H	L1	L1'	L2	M	Y
LQ3R1A-F□	1/8"	1/8"	3.5	10	9	4.8	9.5	11	28.5	27.5	19.5	14	18.5
LQ3R2A-F□	1/4"	1/8"	4	17	16	6	12	16	34.5	33.5	20	20	18.5
LQ3R2B-F□		1/4"									22		21.5
LQ3R3A-F□	3/8"	1/8"	5	22.5	19.5	9	18	21	47.5	44.5	23	25	18.5
LQ3R3B-F□		1/4"									24		21.5
LQ3R3C-F□		3/8"									25.5		25
LQ3R4A-F□	1/2"	1/4"	6	24.5	22.5	10	20	24	52.5	50.5	23.5	29	21.5
LQ3R4B-F□		3/8"									26		25
LQ3R4C-F□		1/2"									30		29.5
LQ3R5A-F□	3/4"	3/8"	7	26.5	24	14	28	32	64	61.5	30.5	37	25
LQ3R5B-F□		1/2"									35.5		29.5
LQ3R5C-F□		3/4"									37		36
LQ3R6A-F□	1"	1/2"	8	30	26	18	36	41	78	74	41	49	29.5
LQ3R6B-F□		3/4"									42.5		36
LQ3R6C-F□		1"									46		44.5

Series LQ3

Dimensions

Union elbow: LQ3E



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L': Nut material PVDF dimensions.

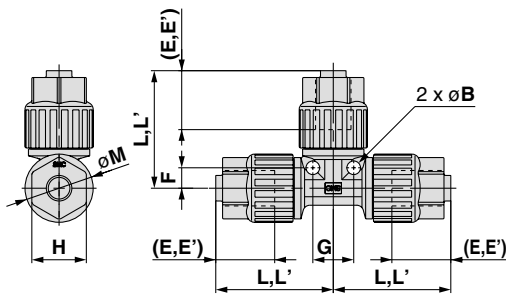
Metric Size

Model	Applicable tubing O.D.	B	C	E	E'	H	L	L'	M
LQ3E11	$\phi 4$	3.5	4.8	10	9	11	28.5	27.5	14
LQ3E12	$\phi 3$								
LQ3E21	$\phi 6$	4	6	17	16	16	34.5	33.5	20
LQ3E31	$\phi 10$	5	9	22.5	19.5	21	47.5	44.5	25
LQ3E32	$\phi 8$								
LQ3E41	$\phi 12$	6	10	24	22	24	52.5	50.5	29
LQ3E51	$\phi 19$	7	14	26.5	24	32	64	61.5	37
LQ3E61	$\phi 25$	8	18	30	26	41	78	74	49

Inch Size

Model	Applicable tubing O.D.	B	C	E	E'	H	L	L'	M
LQ3E1A	1/8"	3.5	4.8	10	9	11	28.5	27.5	14
LQ3E2A	1/4"	4	6	17	16	16	34.5	33.5	20
LQ3E3A	3/8"	5	9	22.5	19.5	21	47.5	44.5	25
LQ3E4A	1/2"	6	10	24.5	22.5	24	52.5	50.5	29
LQ3E5A	3/4"	7	14	26.5	24	32	64	61.5	37
LQ3E6A	1"	8	18	30	26	41	78	74	49

Union tee: LQ3T



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L': Nut material PVDF dimensions.

Metric Size

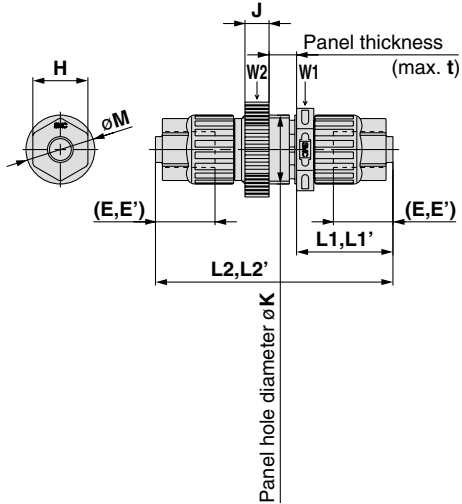
Model	Applicable tubing O.D.	B	E	E'	F	G	H	L	L'	M
LQ3T11	$\phi 4$	3.5	10	9	4.8	9.5	11	28.5	27.5	14
LQ3T12	$\phi 3$									
LQ3T21	$\phi 6$	4	17	16	6	12	16	34.5	33.5	20
LQ3T31	$\phi 10$	5	22.5	19.5	9	18	21	47.5	44.5	25
LQ3T32	$\phi 8$									
LQ3T41	$\phi 12$	6	24	22	10	20	24	52.5	50.5	29
LQ3T51	$\phi 19$	7	26.5	24	14	28	32	64	61.5	37
LQ3T61	$\phi 25$	8	30	26	18	36	41	78	74	49

Inch Size

Model	Applicable tubing O.D.	B	E	E'	F	G	H	L	L'	M
LQ3T1A	1/8"	3.5	10	9	4.8	9.5	11	28.5	27.5	14
LQ3T2A	1/4"	4	17	16	6	12	16	34.5	33.5	20
LQ3T3A	3/8"	5	22.5	19.5	9	18	21	47.5	44.5	25
LQ3T4A	1/2"	6	24.5	22.5	10	20	24	52.5	50.5	29
LQ3T5A	3/4"	7	26.5	24	14	28	32	64	61.5	37
LQ3T6A	1"	8	30	26	18	36	41	78	74	49

Dimensions

Panel mount union: LQ3P



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L1',L2': Nut material PVDF dimensions.
W: Width across flats dimension.

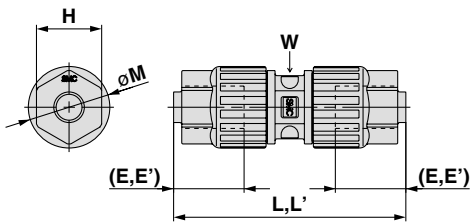
Metric Size

Model	Applicable tubing O.D.	E	E'	H	J	K	L1	L1'	L2	L2'	M	t	W1	W2
LQ3P11	ø4													
LQ3P12	ø3	10	9	11	6	14.5	23.5	22.5	58	56	14	8	16	17
LQ3P21	ø6	17	16	16	7	20.5	28	27	69	67	20	8	21	24
LQ3P31	ø10	22.5	19.5	21	7	24.5	39	36	89	83	25	8	26	28
LQ3P32	ø8													
LQ3P41	ø12	24	22	24	9	30.5	44.5	42.5	100	96	29	8	32	36
LQ3P51	ø19	26.5	24	32	9	36.5	50.5	48	117	112	37	13	41	43
LQ3P61	ø25	30	26	41	10	48.5	60	56	136	127.5	49	13	50	55

Inch Size

Model	Applicable tubing O.D.	E	E'	H	J	K	L1	L1'	L2	L2'	M	t	W1	W2
LQ3P1A	1/8"	10	9	11	6	14.5	23.5	22.5	58	56	14	8	16	17
LQ3P2A	1/4"	17	16	16	7	20.5	28	27	69	67	20	8	21	24
LQ3P3A	3/8"	22.5	19.5	21	7	24.5	39	36	89	83	25	8	26	28
LQ3P4A	1/2"	24.5	22.5	24	9	30.5	44.5	42.5	100	96	29	8	32	36
LQ3P5A	3/4"	26.5	24	32	9	36.5	50.5	48	117	112	37	13	41	43
LQ3P6A	1"	30	26	41	10	48.5	60	56	136	127.5	49	13	50	55

Union: LQ3U



(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L: Nut material PVDF dimensions.
W: Width across flats dimension.

Metric Size

Model	Applicable tubing O.D.	E	E'	H	L	L'	M	W
LQ3U11	ø4	10	9	11	46.5	44.5	14	10
LQ3U12	ø3							
LQ3U21	ø6	17	16	16	57	55	20	14
LQ3U31	ø10	22.5	19.5	21	79	73	25	18
LQ3U32	ø8							
LQ3U41	ø12	24	22	24	88	84	29	22
LQ3U51	ø19	26.5	24	32	103	98	37	30
LQ3U61	ø25	30	26	41	122	113.5	49	36

Inch Size

Model	Applicable tubing O.D.	E	E'	H	L	L'	M	W
LQ3U1A	1/8"	10	9	11	46.5	44.5	14	10
LQ3U2A	1/4"	17	16	16	57	55	20	14
LQ3U3A	3/8"	22.5	19.5	21	79	73	25	18
LQ3U4A	1/2"	24.5	22.5	24	88	84	29	22
LQ3U5A	3/4"	26.5	24	32	103	98	37	30
LQ3U6A	1"	30	26	41	122	113.5	49	36

Series LQ3 Union Reducing

How to Order

Tubing connection

LQ3 U 2 1 - R1

Fitting type

Symbol	Type
U	Union

Body size
(according to the combination table)

Tubing type

Symbol	Type
A	Inch
1, 2	Metric

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Type of piping (according to the combination table)

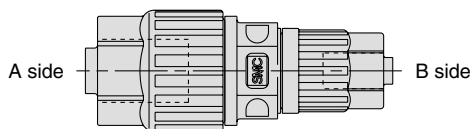
Symbol	Type
R□	Reducing

Size combination (Metric)

Size	Model	A side	B side
		Applicable tubing size (mm)	Applicable tubing size (mm)
1	LQ3U11-R1	4 x 3	3 x 2
2	LQ3U21-R1	6 x 4	4 x 3
	LQ3U21-R2		3 x 2
3	LQ3U31-R1	10 x 8	8 x 6
	LQ3U31-R2		6 x 4
	LQ3U32-R1	8 x 6	6 x 4
	LQ3U32-R2		4 x 3
4	LQ3U41-R1	12 x 10	10 x 8
	LQ3U41-R2		8 x 6
5	LQ3U51-R1	19 x 16	12 x 10
	LQ3U51-R2		10 x 8
6	LQ3U61-R1	25 x 22	19 x 16
	LQ3U61-R2		12 x 10

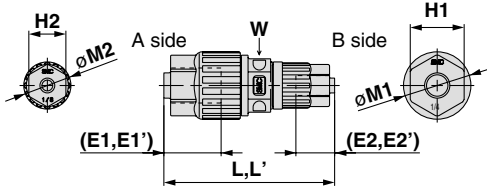
Size combination (Inch)

Size	Model	A side	B side
		Applicable tubing size (inch)	Applicable tubing size (inch)
2	LQ3U2A-R1	1/4" x 5/32"	1/8" x 0.086"
3	LQ3U3A-R1	3/8" x 1/4"	1/4" x 5/32"
	LQ3U3A-R2		1/8" x 0.086"
4	LQ3U4A-R1	1/2" x 3/8"	3/8" x 1/4"
	LQ3U4A-R2		1/4" x 5/32"
5	LQ3U5A-R1	3/4" x 5/8"	1/2" x 3/8"
	LQ3U5A-R2		3/8" x 1/4"
6	LQ3U6A-R1	1" x 7/8"	1/4" x 5/32"
	LQ3U6A-R2		3/4" x 5/8"



Dimensions

Union reducing: LQ3U-R



(E1, E1', E2, E2'): Reference dimension for the inserted tubing from the end surface of the nut.

(E1', E2'), L': Nut material PVDF dimensions.

Metric Size

Model	A side	B side	E1	E1'	E2	E2'	H1	H2	L	L'	M1	M2	W
	Applicable tubing O.D.	Applicable tubing O.D.											
LQ3U11-R1	ø4	ø3	10	9	10	9	11	11	46.5	44.5	14	14	10
LQ3U21-R1	ø6	ø4	17	16	10	9	16	11	51	48.5	20	14	14
LQ3U21-R2		ø3											
LQ3U31-R1	ø10	ø8	22.5	19.5	22.5	19.5	21	21	79	73	25	25	18
LQ3U31-R2		ø6			17	16		16	66.5	62		20	
LQ3U32-R1	ø8	ø6	22.5	19.5	17	16	21	16	66.5	62	25	20	18
LQ3U32-R2		ø4			10	9		11	62	58		14	
LQ3U41-R1	ø12	ø10	24	22	22.5	19.5	24	21	82.5	77	29	25	22
LQ3U41-R2		ø8										24	
LQ3U51-R1	ø19	ø12	26.5	24	24	22	32	24	95.5	91	37	29	30
LQ3U51-R2		ø10			22.5	19.5		21	91	85.5		25	
LQ3U61-R1	ø25	ø19	30	26	26.5	24	41	32	112.5	105.5	49	37	36
LQ3U61-R2		ø12			24	22		24	106.5	100		29	

Inch Size

Model	A side	B side	E1	E1'	E2	E2'	H1	H2	L	L'	M1	M2	W
	Applicable tubing O.D.	Applicable tubing O.D.											
LQ3U2A-R1	1/4"	1/8"	17	16	10	9	16	11	51	48.5	20	14	14
LQ3U3A-R1	3/8"	1/4"	22.5	19.5	17	16	21	16	66.5	62	25	20	18
LQ3U3A-R2		1/8"			10	9		11	62	58		14	
LQ3U4A-R1	1/2"	3/8"	24.5	22.5	22.5	19.5	24	21	82.5	77	29	25	22
LQ3U4A-R2		1/4"			17	16		16	72.5	69		20	
LQ3U5A-R1	3/4"	1/2"	26.5	24	24.5	22.5	32	24	95.5	91	37	29	30
LQ3U5A-R2		3/8"			22.5	19.5		21	91	85.5		25	
LQ3U5A-R3	1"	1/4"	30	26	17	16	41	16	81	77	49	20	36
LQ3U6A-R1		3/4"			26.5	24		32	112.5	105.5		37	
LQ3U6A-R2	1/2"	24.5	22.5	24	106.5	100	29						

Series LQ3

Union Elbow Reducing

How to Order

Tubing connection

LQ3 E 2 1 R1

Fitting type

Symbol	Type
E	Union elbow

Body size
(according to the combination table)

Tubing type

Symbol	Type
A	Inch
1, 2	Metric

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Type of piping (according to the combination table)

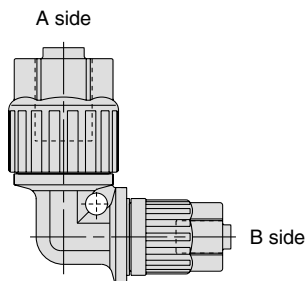
Symbol	Type
R□	Reducing

Size combination (Metric)

Size	Model	A side	B side
		Applicable tubing size (mm)	Applicable tubing size (mm)
1	LQ3E11-R1	4 x 3	3 x 2
2	LQ3E21-R1	6 x 4	4 x 3
	LQ3E21-R2		3 x 2
3	LQ3E31-R1	10 x 8	8 x 6
	LQ3E31-R2		6 x 4
	LQ3E32-R1	8 x 6	6 x 4
	LQ3E32-R2		4 x 3
4	LQ3E41-R1	12 x 10	10 x 8
	LQ3E41-R2		8 x 6
5	LQ3E51-R1	19 x 16	12 x 10
	LQ3E51-R2		10 x 8
6	LQ3E61-R1	25 x 22	19 x 16
	LQ3E61-R2		12 x 10

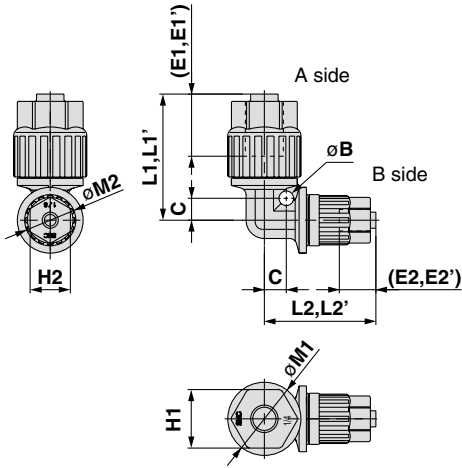
Size combination (Inch)

Size	Model	A side	B side
		Applicable tubing size (inch)	Applicable tubing size (inch)
2	LQ3E2A-R1	1/4" x 5/32"	1/8" x 0.086"
3	LQ3E3A-R1	3/8" x 1/4"	1/4" x 5/32"
	LQ3E3A-R2		1/8" x 0.086"
4	LQ3E4A-R1	1/2" x 3/8"	3/8" x 1/4"
	LQ3E4A-R2		1/4" x 5/32"
5	LQ3E5A-R1	3/4" x 5/8"	1/2" x 3/8"
	LQ3E5A-R2		3/8" x 1/4"
6	LQ3E6A-R1	1" x 7/8"	1/4" x 5/32"
	LQ3E6A-R2		3/4" x 5/8"



Dimensions

Union elbow reducing: LQ3E-R



Metric Size

Model	A side	B side	B	C	E1	E1'	E2	E2'	H1	H2	L1	L1'	L2	L2'	M1	M2
	Applicable tubing O.D.	Applicable tubing O.D.														
LQ3E11-R1	ø4	ø3	3.5	4.8	10	9	10	9	11	11	28.5	27.5	28.5	27.5	14	14
LQ3E21-R1	ø6	ø4	4	6	17	16	10	9	16	11	34.5	33.5	30.5	29.5	20	14
LQ3E21-R2		ø3														
LQ3E31-R1	ø10	ø8	5	9	22.5	19.5	22.5	19.5	21	21	47.5	44.5	47.5	44.5	25	25
LQ3E31-R2		ø6														
LQ3E32-R1	ø8	ø6	5	9	22.5	19.5	17	16	21	16	47.5	44.5	38	37	25	20
LQ3E32-R2		ø4														
LQ3E41-R1	ø12	ø10	6	10	24	22	22.5	19.5	24	21	52.5	50.5	48.5	45.5	29	25
LQ3E41-R2		ø8														
LQ3E51-R1	ø19	ø12	7	14	26.5	24	24	22	32	24	64	61.5	58.5	56.5	37	29
LQ3E51-R2		ø10														
LQ3E61-R1	ø25	ø19	8	18	30	26	26.5	24	41	32	78	74	70	67.5	49	37
LQ3E61-R2		ø12														

(E1,E1',E2,E2'): Reference dimension for the inserted tubing from the end surface of the nut.
 (E1',E2'),L1',L2': Nut material PVDF dimensions.

Inch Size

Model	A side	B side	B	C	E1	E1'	E2	E2'	H1	H2	L1	L1'	L2	L2'	M1	M2
	Applicable tubing O.D.	Applicable tubing O.D.														
LQ3E2A-R1	1/4"	1/8"	4	6	17	16	10	9	16	11	34.5	33.5	30.5	29.5	20	14
LQ3E3A-R1	3/8"	1/4"	5	9	22.5	19.5	17	16	21	16	47.5	44.5	38	37	25	20
LQ3E3A-R2		1/8"														
LQ3E4A-R1	1/2"	3/8"	6	10	24.5	22.5	22.5	19.5	24	21	52.5	50.5	48.5	45.5	29	25
LQ3E4A-R2		1/4"														
LQ3E5A-R1	3/4"	1/2"	7	14	26.5	24	24.5	22.5	32	24	64	61.5	58.5	56.5	37	29
LQ3E5A-R2		3/8"														
LQ3E5A-R3	1"	1/4"	8	18	30	26	17	16	16	32	78	74	43.5	42.5	20	20
LQ3E6A-R1		3/4"														
LQ3E6A-R2	1/2"	24.5	22.5	24	74	64.5	62.5	29								

Series LQ3 Union Tee Reducing

How to Order

Tubing connection

LQ3 T 2 A - R1

Fitting type

Symbol	Type
T	Union tee

Body size
(according to the combination table)

Tubing type

Symbol	Type
A	Inch
1, 2	Metric

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Type of piping (according to the combination table)

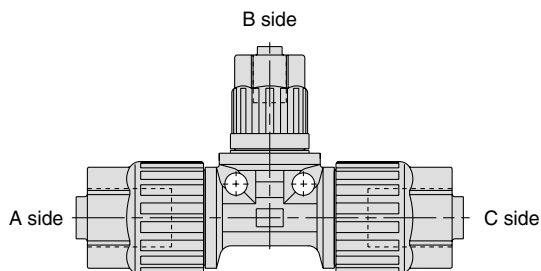
Symbol	Type
R□	Reducing

Size combination (Metric)

Size	Model	A side (Left)	B side (Centre)	C side (Right)
		Applicable tubing size (mm)	Applicable tubing size (mm)	Applicable tubing size (mm)
1	LQ3T11-R1	4 x 3	3 x 2	4 x 3
	LQ3T11-R5		4 x 3	3 x 2
2	LQ3T21-R1	6 x 4	4 x 3	6 x 4
	LQ3T21-R2		3 x 2	6 x 4
	LQ3T21-R5		6 x 4	4 x 3
	LQ3T21-R6		6 x 4	3 x 2
3	LQ3T31-R1	10 x 8	8 x 6	10 x 8
	LQ3T31-R2		6 x 4	10 x 8
	LQ3T31-R5		10 x 8	8 x 6
	LQ3T31-R6	10 x 8	6 x 4	
	LQ3T32-R5	8 x 6	8 x 6	6 x 4
4	LQ3T41-R1	12 x 10	10 x 8	12 x 10
	LQ3T41-R5		12 x 10	10 x 8
5	LQ3T51-R1	19 x 16	12 x 10	19 x 16
	LQ3T51-R5		19 x 16	12 x 10
6	LQ3T61-R1	25 x 22	19 x 16	25 x 22
	LQ3T61-R5		25 x 22	19 x 16

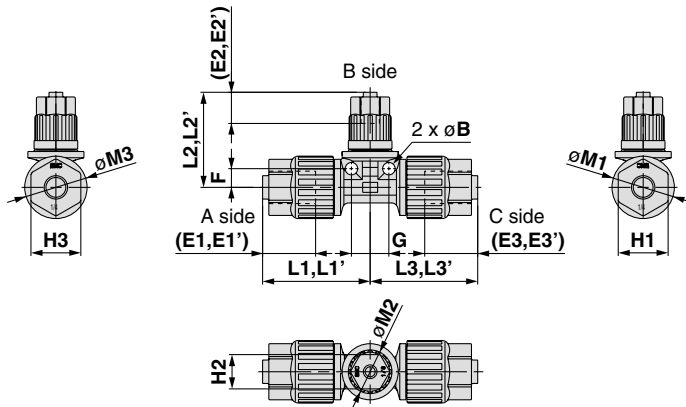
Size combination (Inch)

Size	Model	A side (Left)	B side (Centre)	C side (Right)		
		Applicable tubing size (inch)	Applicable tubing size (inch)	Applicable tubing size (inch)		
2	LQ3T2A-R1	1/4" x 5/32"	1/8" x 0.086"	1/4" x 5/32"		
	LQ3T2A-R5		1/4" x 5/32"	1/8" x 0.086"		
3	LQ3T3A-R1	3/8" x 1/4"	1/4" x 5/32"	3/8" x 1/4"		
	LQ3T3A-R2		1/8" x 0.086"	3/8" x 1/4"		
	LQ3T3A-R5		3/8" x 1/4"	1/4" x 5/32"		
	LQ3T3A-R7		1/4" x 5/32"	1/4" x 5/32"		
4	LQ3T3A-R9	1/4" x 5/32"	3/8" x 1/4"	1/4" x 5/32"		
	LQ3T4A-R1	1/2" x 3/8"	3/8" x 1/4"	1/2" x 3/8"		
	LQ3T4A-R2		1/4" x 5/32"	1/2" x 3/8"		
	LQ3T4A-R5		1/2" x 3/8"	3/8" x 1/4"		
	LQ3T4A-R6		1/2" x 3/8"	1/4" x 5/32"		
	LQ3T4A-R7		3/8" x 1/4"	3/8" x 1/4"		
	LQ3T4A-R8		1/4" x 5/32"	1/4" x 5/32"		
	LQ3T4A-R9		3/8" x 1/4"	1/2" x 3/8"	3/8" x 1/4"	
	5		LQ3T5A-R1	3/4" x 5/8"	1/2" x 3/8"	3/4" x 5/8"
LQ3T5A-R2			3/8" x 1/4"		3/4" x 5/8"	
LQ3T5A-R3		1/4" x 5/32"	3/4" x 5/8"			
LQ3T5A-R5		3/4" x 5/8"	1/2" x 3/8"			
LQ3T5A-R6		3/4" x 5/8"	3/8" x 1/4"			
LQ3T5A-R7		1/2" x 3/8"	1/2" x 3/8"			
LQ3T5A-R9		1/2" x 3/8"	3/4" x 5/8"		1/2" x 3/8"	
LQ3T5A-R10		3/8" x 1/4"	3/4" x 5/8"		3/8" x 1/4"	
LQ3T5A-R11		3/4" x 5/8"	1/2" x 3/8"		1/4" x 5/32"	
LQ3T5A-R12		3/4" x 5/8"	3/4" x 5/8"		1/4" x 5/32"	
6		LQ3T6A-R1	1" x 7/8"		3/4" x 5/8"	1" x 7/8"
		LQ3T6A-R2			1/2" x 3/8"	1" x 7/8"
	LQ3T6A-R3	3/8" x 1/4"		1" x 7/8"		
	LQ3T6A-R4	1/4" x 5/32"		1" x 7/8"		
	LQ3T6A-R6	1" x 7/8"		1/2" x 3/8"		
	LQ3T6A-R7	3/4" x 5/8"		3/4" x 5/8"		
	LQ3T6A-R9	3/4" x 5/8"		1" x 7/8"	3/4" x 5/8"	
	LQ3T6A-R10	1/2" x 3/8"		1" x 7/8"	1/2" x 3/8"	
	LQ3T6A-R12	1" x 7/8"		1" x 7/8"	3/8" x 1/4"	
	LQ3T6A-R13	1" x 7/8"		1" x 7/8"	1/4" x 5/32"	
	LQ3T6A-R14	3/4" x 5/8"		1" x 7/8"	1/4" x 5/32"	



Dimensions

Union tee reducing: LQ3T-R



(E1, E1', E2, E2', E3, E3'): Reference dimension for the inserted tubing from the end surface of the nut.

(E1', E2', E3'), L1', L2', L3': Nut material PVDF dimensions.

Metric Size

Model	A side (Left)	B side (Centre)	C side (Right)	B	E1	E1'	E2	E2'	E3	E3'	F	G	H1	H2	H3	L1	L1'	L2	L2'	L3	L3'	M1	M2	M3
	Applicable tubing O.D.	Applicable tubing O.D.	Applicable tubing O.D.																					
LQ3T11-R1	ø4	ø3	ø4	3.5	10	9	10	9	10	9	4.8	9.5	11	11	11	28.5	27.5	28.5	27.5	28.5	27.5	14	14	14
LQ3T11-R5		ø4	ø3																					
LQ3T21-R1		ø6	ø6																					
LQ3T21-R2	ø3	ø6																						
LQ3T21-R5	ø6	ø4																						
LQ3T21-R6	ø6	ø3	5	22.5	19.5	17	16	22.5	19.5	9	18	21	21	21	47.5	44.5	47.5	44.5	47.5	44.5	25	25	25	
LQ3T31-R1	ø8	ø10																						
LQ3T31-R2	ø6	ø10																						
LQ3T31-R5	ø10	ø8	6	24	22	22.5	19.5	24	22	10	20	24	21	24	52.5	50.5	48.5	45.5	52.5	50.5	29	29	25	
LQ3T31-R6	ø10	ø6																						
LQ3T32-R1	ø8	ø8																						
LQ3T32-R5	ø8	ø6	7	26.5	24	22.5	19.5	24	22	14	28	32	24	32	64	61.5	58.5	56.5	64	61.5	37	29	37	
LQ3T41-R1	ø12	ø12																						
LQ3T41-R5	ø12	ø10																						
LQ3T51-R1	ø19	ø19	8	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T51-R5	ø19	ø12																						
LQ3T61-R1	ø19	ø25																						
LQ3T61-R5	ø25	ø19				30	26	26.5	24				41	32			78	74	70	67.5		49	49	37

Inch Size

Model	A side (Left)	B side (Centre)	C side (Right)	B	E1	E1'	E2	E2'	E3	E3'	F	G	H1	H2	H3	L1	L1'	L2	L2'	L3	L3'	M1	M2	M3
	Applicable tubing O.D.	Applicable tubing O.D.	Applicable tubing O.D.																					
LQ3T2A-R1	1/4"	1/8"	1/4"	4	17	16	10	9	17	16	6	12	16	11	16	34.5	33.5	30.5	29.5	34.5	33.5	20	14	20
LQ3T2A-R5		1/4"	1/8"																					
LQ3T3A-R1		3/8"	3/8"																					
LQ3T3A-R2	1/8"	3/8"																						
LQ3T3A-R5	3/8"	1/4"																						
LQ3T3A-R7	1/4"	1/4"	6	24.5	22.5	22.5	19.5	17	16	10	20	24	21	24	52.5	50.5	48.5	45.5	52.5	50.5	29	29	25	
LQ3T3A-R9	1/4"	3/8"																						
LQ3T4A-R1	1/2"	1/2"																						7
LQ3T4A-R2	1/2"	1/2"																						
LQ3T4A-R5	1/2"	3/8"																						
LQ3T4A-R6	1/2"	1/4"	8	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T4A-R7	3/8"	3/8"																						
LQ3T4A-R8	1/4"	1/4"																						
LQ3T4A-R9	3/8"	1/2"	9	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T5A-R1	3/4"	3/4"																						
LQ3T5A-R2	3/4"	3/4"																						
LQ3T5A-R3	3/4"	1/2"	10	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T5A-R5	3/4"	1/2"																						
LQ3T5A-R6	3/4"	3/8"																						
LQ3T5A-R7	1/2"	1/2"	11	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T5A-R9	1/2"	3/4"																						
LQ3T5A-R10	3/8"	3/4"																						
LQ3T5A-R11	3/4"	1/4"	12	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T5A-R12	3/4"	1/4"																						
LQ3T6A-R1	1"	1"																						13
LQ3T6A-R2	1/2"	1"																						
LQ3T6A-R3	3/8"	1"																						
LQ3T6A-R4	1/4"	1"	14	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T6A-R6	1"	1/2"																						
LQ3T6A-R7	3/4"	3/4"																						
LQ3T6A-R9	3/4"	1"	15	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T6A-R10	1/2"	1"																						
LQ3T6A-R12	1"	3/8"																						
LQ3T6A-R13	1"	1/4"	16	30	26	26.5	24	30	26	18	36	41	32	41	78	74	70	67.5	78	74	49	37	49	
LQ3T6A-R14	3/4"	1/4"																						

Series LQ3 Space Saving Union Elbow

How to Order

Tubing connection

LQ3 E 21 - S -

Fitting type

Symbol	Type
E	Union elbow

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Thread type

Symbol	Type
S	Space saving

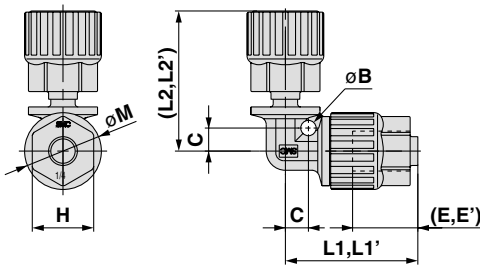
Size combination

Size	No.	Applicable tubing size (mm)
2	1	6 x 4
3	1	10 x 8
3	2	8 x 6
4	1	12 x 10
5	1	19 x 16
6	1	25 x 22

Size	Symbol	Applicable tubing size (inch)
2	A	1/4" x 5/32"
3	A	3/8" x 1/4"
4	A	1/2" x 3/8"
5	A	3/4" x 5/8"
6	A	1" x 7/8"

Dimensions

Space saving union elbow: LQ3E-S



Metric Size

Model	Applicable tubing O.D.	B	C	E	E'	H	L1	L1'	L2	L2'	M
LQ3E21-S	ø6	4	6	17	16	16	34.5	33.5	36.5	35.5	20
LQ3E31-S	ø10	5	9	22.5	19.5	21	47.5	44.5	49.5	46.5	25
LQ3E32-S	ø8										
LQ3E41-S	ø12	6	10	24	22	24	52.5	50.5	54.5	52.5	29
LQ3E51-S	ø19	7	14	26.5	24	32	64	61.5	66	63.5	37
LQ3E61-S	ø25	8	18	30	26	41	78	74	80	76	49

(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.
(E'),L1',L2': Nut material PVDF dimensions.

Inch Size

Model	Applicable tubing O.D.	B	C	E	E'	H	L1	L1'	L2	L2'	M
LQ3E2A-S	1/4"	4	6	17	16	16	34.5	33.5	36.5	35.5	20
LQ3E3A-S	3/8"	5	9	22.5	19.5	21	47.5	44.5	49.5	46.5	25
LQ3E4A-S	1/2"	6	10	24.5	22.5	24	52.5	50.5	54.5	52.5	29
LQ3E5A-S	3/4"	7	14	26.5	24	32	64	61.5	66	63.5	37
LQ3E6A-S	1"	8	18	30	26	41	78	74	80	76	49

Series LQ3 Space Saving Branch Tee

How to Order

Tubing connection

LQ3 T 21-S B

Fitting type

Symbol	Type
T	Union tee

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

Thread type

Symbol	Type
B	Branch tee

Tubing type

Symbol	Type
S	Space saving

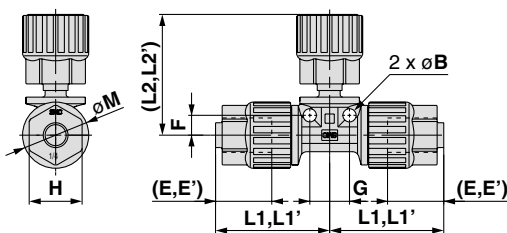
Size combination

Size	No.	Applicable tubing size (mm)
2	1	6 x 4
3	1	10 x 8
3	2	8 x 6
4	1	12 x 10
5	1	19 x 16
6	1	25 x 22

Size	Symbol	Applicable tubing size (inch)
2	A	1/4" x 5/32"
3	A	3/8" x 1/4"
4	A	1/2" x 3/8"
5	A	3/4" x 5/8"
6	A	1" x 7/8"

Dimensions

Space saving branch tee: LQ3T-SB



Metric Size

Model	Applicable tubing O.D.	B	E	E'	F	G	H	L1	L1'	L2	L2'	M
LQ3T21-SB	ø6	4	17	16	6	12	16	34.5	33.5	36.5	35.5	20
LQ3T31-SB	ø10	5	22.5	19.5	9	18	21	47.5	44.5	49.5	46.5	25
LQ3T32-SB	ø8	5	22.5	19.5	9	18	21	47.5	44.5	49.5	46.5	25
LQ3T41-SB	ø12	6	24	22	10	20	24	52.5	50.5	54.5	52.5	29
LQ3T51-SB	ø19	7	26.5	24	14	28	32	64	61.5	66	63.5	37
LQ3T61-SB	ø25	8	30	26	18	36	41	78	74	80	76	49

(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.

(E'),L1',L2': Nut material PVDF dimensions.

Inch Size

Model	Applicable tubing O.D.	B	E	E'	F	G	H	L1	L1'	L2	L2'	M
LQ3T2A-SB	1/4"	4	17	16	6	12	16	34.5	33.5	36.5	35.5	20
LQ3T3A-SB	3/8"	5	22.5	19.5	9	18	21	47.5	44.5	49.5	46.5	25
LQ3T4A-SB	1/2"	6	24.5	22.5	10	20	24	52.5	50.5	54.5	52.5	29
LQ3T5A-SB	3/4"	7	26.5	24	14	28	32	64	61.5	66	63.5	37
LQ3T6A-SB	1"	8	30	26	18	36	41	78	74	80	76	49

Series LQ3 Space Saving Run Tee

How to Order

Tubing connection

LQ3 T 21-S R-

Fitting type

Symbol	Type
T	Union tee

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Standard packaging equivalent to Class M5.5
3	PVDF	Clean packaging equivalent to Class M3.5

Thread type

Symbol	Type
R	Run tee

Tubing type

Symbol	Type
S	Space saving

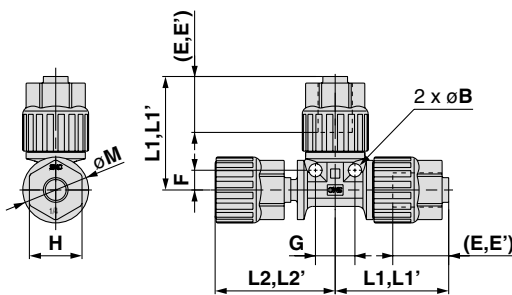
Size combination

Size	No.	Applicable tubing size (mm)
2	1	6 x 4
3	1	10 x 8
3	2	8 x 6
4	1	12 x 10
5	1	19 x 16
6	1	25 x 22

Size	Symbol	Applicable tubing size (inch)
2	A	1/4" x 5/32"
3	A	3/8" x 1/4"
4	A	1/2" x 3/8"
5	A	3/4" x 5/8"
6	A	1" x 7/8"

Dimensions

Space saving run tee: LQ3T-SR



Metric Size

Model	Applicable tubing O.D.	B	E	E'	F	G	H	L1	L1'	L2	L2'	M
LQ3T21-SR	ø6	4	17	16	6	12	16	34.5	33.5	36.5	35.5	20
LQ3T31-SR	ø10	5	22.5	19.5	9	18	21	47.5	44.5	49.5	46.5	25
LQ3T32-SR	ø8											
LQ3T41-SR	ø12	6	24	22	10	20	24	52.5	50.5	54.5	52.5	29
LQ3T51-SR	ø19	7	26.5	24	14	28	32	64	61.5	66	63.5	37
LQ3T61-SR	ø25	8	30	26	18	36	41	78	74	80	76	49

Inch Size

Model	Applicable tubing O.D.	B	E	E'	F	G	H	L1	L1'	L2	L2'	M
LQ3T2A-SR	1/4"	4	17	16	6	12	16	34.5	33.5	36.5	35.5	20
LQ3T3A-SR	3/8"	5	22.5	19.5	9	18	21	47.5	44.5	49.5	46.5	25
LQ3T4A-SR	1/2"											
LQ3T5A-SR	3/4"	7	26.5	24	14	28	32	64	61.5	66	63.5	37
LQ3T6A-SR	1"	8	30	26	18	36	41	78	74	80	76	49

(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.

(E'),L1',L2': Nut material PVDF dimensions.

Series LQ3

Tube Extension Straight Connector

How to Order

Tubing connection

LQ3 H 2A - T

Fitting type

Symbol	Type
H	Connector

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Standard packaging equivalent to Class M5.5
3	PVDF	Clean packaging equivalent to Class M3.5

Thread type

Symbol	Type
T	Tube extension

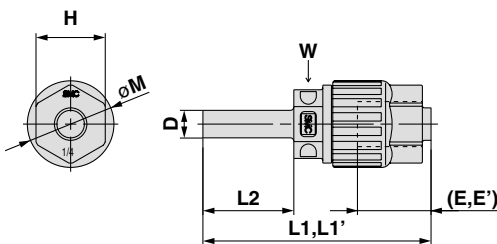
Size combination

Size	No.	Applicable tubing size (mm)
2	1	6 x 4
3	1	10 x 8
3	2	8 x 6
4	1	12 x 10
5	1	19 x 16
6	1	25 x 22

Size	Symbol	Applicable tubing size (inch)
2	A	1/4" x 5/32"
3	A	3/8" x 1/4"
4	A	1/2" x 3/8"
5	A	3/4" x 5/8"
6	A	1" x 7/8"

Dimensions

Tube extension straight connector: LQ3H-T



Metric Size

Model	Applicable tubing O.D.	D	E	E'	H	L1	L1'	L2	M	W
LQ3H21-T	ø6	ø6	17	16	16	50	49	18	20	14
LQ3H31-T	ø10	ø10	22.5	19.5	21	65.5	62.5	23.5	25	18
LQ3H32-T	ø8	ø8	22.5	19.5	21	65.5	62.5	23.5	25	18
LQ3H41-T	ø12	ø12	24	22	24	72	70	25	29	22
LQ3H51-T	ø19	ø19	26.5	24	32	83.5	81	26.5	37	30
LQ3H61-T	ø25	ø25	30	26	41	97.5	93.5	31	49	36

(E,E'): Reference dimension for the inserted tubing from the end surface of the nut.

(E'),L': Nut material PVDF dimensions.

W: Width across flats dimension.

Inch Size

Model	Applicable tubing O.D.	D	E	E'	H	L1	L1'	L2	M	W
LQ3H2A-T	1/4"	1/4"	17	16	16	50	49	18	20	14
LQ3H3A-T	3/8"	3/8"	22.5	19.5	21	65.5	62.5	23.5	25	18
LQ3H4A-T	1/2"	1/2"	24.5	22.5	24	72	70	25	29	22
LQ3H5A-T	3/4"	3/4"	26.5	24	32	83.5	81	26.5	37	30
LQ3H6A-T	1"	1"	30	26	41	97.5	93.5	31	49	36

Series LQ3

Options

Blanking plug

LQ3—1 P 03—1—

Size

Symbol	Size
1	1
2	2
3	3
4	4
5	5
6	6

Fitting type

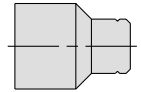
Symbol	Type
P	Plug

Thread type

Symbol	Type
1	Male

Packaging

Symbol	Packaging
-	Clean packaging equivalent to Class M3.5
1	Standard packaging equivalent to Class M5.5



Used to block fittings which are not being used.

Applicable tubing size

Metric Size

Symbol	Applicable tubing size	Size
03	ø3 x ø2	1
04	ø4 x ø3	
06	ø6 x ø4	2
08	ø8 x ø6	
10	ø10 x ø8	3
12	ø12 x ø10	
19	ø19 x ø16	5
25	ø25 x ø22	

Inch Size

Symbol	Applicable tubing size	Size
03	1/8" x 0.086"	1
07	1/4" x 5/32"	2
11	3/8" x 1/4"	3
13	1/2" x 3/8"	4
19	3/4" x 5/8"	5
25	1" x 7/8"	6

Tubing plug

LQ3—1 P 03—2—

Size

Symbol	Size
1	1
2	2
3	3
4	4
5	5
6	6

Fitting type

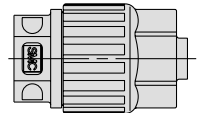
Symbol	Type
P	Plug

Type of piping

Symbol	Type
2	Tubing

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5



Used to block tubing which is not being used.

Applicable tubing size

Metric Size

Symbol	Applicable tubing size	Size
03	ø3 x ø2	1
04	ø4 x ø3	
06	ø6 x ø4	2
08	ø8 x ø6	
10	ø10 x ø8	3
12	ø12 x ø10	
19	ø19 x ø16	5
25	ø25 x ø22	

Inch Size

Symbol	Applicable tubing size	Size
03	1/8" x 0.086"	1
07	1/4" x 5/32"	2
11	3/8" x 1/4"	3
13	1/2" x 3/8"	4
19	3/4" x 5/8"	5
25	1" x 7/8"	6

Nut

LQ3—1 N 03—

Size

Symbol	Size
1	1
2	2
3	3
4	4
5	5
6	6

Fitting type

Symbol	Type
N	Nut

Nut material, packaging

Symbol	Nut material	Packaging
-	PFA	Clean packaging equivalent to Class M3.5
1	PFA	Standard packaging equivalent to Class M5.5
2	PVDF	Clean packaging equivalent to Class M3.5
3	PVDF	Standard packaging equivalent to Class M5.5

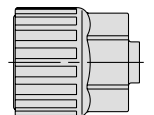
Applicable tubing size

Metric Size

Symbol	Applicable tubing size	Size
03	ø3 x ø2	1
04	ø4 x ø3	
06	ø6 x ø4	2
08	ø8 x ø6	
10	ø10 x ø8	3
12	ø12 x ø10	
19	ø19 x ø16	5
25	ø25 x ø22	

Inch Size

Symbol	Applicable tubing size	Size
03	1/8" x 0.086"	1
07	1/4" x 5/32"	2
11	3/8" x 1/4"	3
13	1/2" x 3/8"	4
19	3/4" x 5/8"	5
25	1" x 7/8"	6



High Purity Fluoropolymer Tubing

Series *TL/TIL*



Model / Specifications

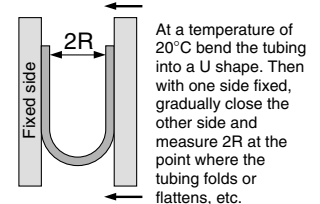
Material: Super PFA

		TL series (Metric size)						TIL series (Inch size)							
Tubing model		TL0403	TL0604	TL0806	TL1008	TL1210	TL1916	TIL01	TILB01	TIL05	TIL07	TIL11	TIL13	TIL19	TIL25
Nominal diameter		—	—	—	—	—	—	1/8"	1/8"	3/16"	1/4"	3/8"	1/2"	3/4"	1"
Tubing size		ø4 x ø3	ø6 x ø4	ø8 x ø6	ø10 x ø8	ø12 x ø10	ø19 x ø16	1/8" x 0.086"	1/8" x 1/16"	3/16" x 1/8"	1/4" x 5/32"	3/8" x 1/4"	1/2" x 3/8"	3/4" x 5/8"	1" x 7/8"
O.D. (mm)	Basic diameter	4	6	8	10	12	19	3.18	3.18	4.75	6.35	9.53	12.7	19.05	25.4
	Tolerance	±0.1				+0.2 -0.1		±0.1				+0.2 -0.1			
Thickness (mm)	Basic diameter	0.5	1				1.5	0.5	0.8	0.8	1.2	1.6			
	Tolerance	±0.05	±0.1				±0.15	±0.05	±0.08	±0.08	±0.12	±0.15			
Roll	10 m	—	—	—	●	●	●	—	—	—	—	●	●	—	—
	20 m	●	●	●	●	●	●	●	—	●	●	●	●	●	●
	50 m	●	●	●	●	●	●	●	—	●	●	●	●	●	●
	100 m	●	●	●	●	●	●	●	—	●	●	●	●	●	—
	50 Ft. (16 m)	—	—	—	—	—	—	●	●	●	●	●	●	●	●
	100Ft. (33 m)	—	—	—	—	—	—	●	●	●	●	●	●	●	●
Straight pipe	2 m	●	●	●	●	●	●	—	●	●	●	●	●	●	●
Colour	Translucent (colour of material)														
Applicable fluid	Please refer to "Applicable Fluids" in page 28.														
Max. operating pressure (at 20°C)	1 MPa			0.9 MPa	0.7 MPa	0.6 MPa	1 MPa					0.7 MPa	0.5 MPa		
Burst pressure (at 20°C)	4.9 MPa	6.9 MPa	4.7 MPa	3.6 MPa	2.9 MPa	2.6 MPa	6.4 MPa	9.9 MPa	6.7 MPa	7.9 MPa	6.7 MPa	4.6 MPa	2.8 MPa	2.0 MPa	
Min. bending radius (mm)	20		40	65	110	160	12	6	20		30	60	160	290	
Max. operating temperature (Fixed use)	260°C														
Material	Super PFA														

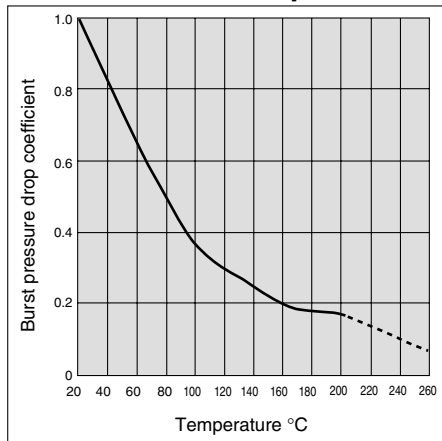


Note 1) • The maximum operating pressure is the value at 20°C. For other temperatures, calculate from the burst pressure drop coefficient. Furthermore, an abnormal temperature increase due to adiabatic compression can cause tubing to burst. To operate at a temperature other than 20°C, the operating pressure must be no more than the value calculated using the equation below: When the value (calculated using the formula below) exceeds 1 MPa, the max. operating pressure is 1 MPa.
(Max. operating pressure) = 1/4 x (Burst pressure drop coefficient) x (Burst pressure at 20°C)
 • When using a fluid in liquid form, the surge pressure must be no more than the maximum operating pressure.
 A surge pressure higher than the maximum operating pressure can cause breakage of the fitting or bursting of the tubing.

Note 2) The minimum bending radius is measured using the method shown in the figure at the right.



Burst Pressure Drop Curve



Note 4)

Eluting Fluorine Ion Amount (µg/g)

Type	Fluorine ion
Eluting amount	0.1 or less

A 15 g piece of fluororesin tubing is cut off, washed in pure water and immersed in 15 ml of 25% methyl alcohol extract at room temperature for 24 hours. Then the extract is diluted with pure water to be subjected to a quantitative analysis on fluorine ions by the stripping method.

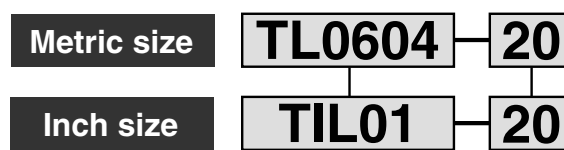
Note 4)

Eluting Metal Ion Amount (ng/cm²)

Type	Al	Fe	Ni	Na	Ca
Eluting amount	4.5	0.3	0.2	7.1	1.3

The interior of the fluororesin tubing is washed in ultrapure water. Approximately 20 g of super high purity hydrofluoric acid (48%) is measured and injected into the tubing. The interior wall of the tubing is immersed at normal temperature for one week with both ends of the tubing plugged. Then the extract is diluted with ultrapure water to be subjected to a quantitative analysis on Al, Fe, Ni, Na and Ca by the stripping method.

How to Order



Length Applicable to both metric and inch size

Symbol	Type	Length
10	Roll	10 m
20		20 m
50		50 m
100		100 m
2S	Straight	2 m

Applicable to inch size only

Symbol	Type	Length
16	Roll	50 Ft. (16 m)
33		100 Ft. (33 m)

Please refer to "Model / Specifications", as the tubing length differs depending on each size.

Note 4) Figures shown in tables are representative values, not guaranteed values.



Applicable Fluids

Material and Fluid Compatibility Check List for High Purity Fluoropolymer Fittings

Chemical		Compatibility
Acetic acid	100%	○
Acetone	100%	○ Note 1, 2)
Ammonium fluoride	40%	○
Ammonium hydroxide	30%	○
Butyl acetate	100%	○
Methylene chloride	100%	○
Hydrochloric acid	38%	○
Hydrofluoric acid	50%	○
Hydrogen peroxide	60%	○
Methanol	100%	○
Methyl ethyl ketone	—	○ Note 2)
Nitric acid	70%	○ Note 2)
Phosphoric acid	86%	○
Caustic potash	85%	○
Sulfuric acid	100%	○ Note 2)
Toluene	—	○ Note 1, 2)
Xylene	—	○ Note 2)
Sodium hydroxide	100%	○ Note 2)
1.1.1-Trichloroethane	100%	○ Note 2)
Phosphorus pentachloride	—	○
Isobutyl alcohol	—	○ Note 1)
Isopropyl alcohol	—	○ Note 1)
Ozone	—	○
Ethyl acetate	—	○ Note 1, 2)
Pure water	—	○
Nitrogen	—	○
Ultrapure water	—	○
Tmah	—	○ Note 2)

Table symbol ○: can be used.



The material and fluid compatibility check list provides reference values as a guide only.

Note 1) Since static electricity may be generated, implement suitable countermeasures.

Note 2) Use the nut material made of PFA because the nut material, PVDF can be used depending on the environment or temperature.


- Compatibility is indicated for fluid temperatures of 200°C or less (In the case of the nut material made of PVDF: 150°C or less)
- The material and fluid compatibility check list provides reference values as a guide only, therefore we do not guarantee the application to our product.
- The data above is based on the information presented by the material manufacturers.
- SMC is not responsible for its accuracy and any damage that may occur because of this data.





Series LQ3

Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "**Caution**", "**Warning**" or "**Danger**". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

 **Caution** : Operator error could result in injury or equipment damage.

 **Warning** : Operator error could result in serious injury or loss of life.

 **Danger** : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power --General rules relating to systems.

Note 2) JIS B 8370 : Pneumatic system axiom.

Warning

1. The compatibility of equipment is the responsibility of the person who designs the system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific system must be based on specifications or post analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate machinery and equipment.

Assembly, handling or repair of machinery and equipment should be performed by trained and experienced operators.

3. Do not service machinery/equipment or attempt to remove components until safety is confirmed.

4. To promote safe operation, be sure to observe company standards and legal regulations, etc.

Refer to ISO4414, JIS B 8370 (pneumatic system axiom), labor health and safety laws and other safety regulations.



Series LQ3 High Purity Fluoropolymer Fittings Precautions 1

Be sure to read this before handling.

Design and Selection

Warning

1. Confirm the specifications.

Give careful consideration to operating conditions such as the application, fluid and environment, and use within the operating ranges specified in this catalogue.

2. Fluid

Operate within the indicated fluid temperature range.

3. Maintenance space

Ensure the necessary space for maintenance and inspections.

4. Fluid pressure range

Keep the supplied fluid pressure within the operating pressure range shown in the catalogue.

5. Countermeasures for static electricity

Since static electricity may be generated depending on the fluid being used, implement suitable countermeasures.

Mounting

Warning

1. After mounting, perform suitable function and leak tests to confirm that the mounting is correct.

2. Instruction manual

Mount and operate the product after reading the manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.

Piping

Caution

1. Connect tubing with special tools.

Please contact SMC for special tool.

* Please refer to the instruction manual regarding the ways to connect a tube.

2. Tighten the nut until it touches the end surface of the body, and then tighten it an addition 1/8 turn. As a guide, refer to the proper tightening torques shown below.

Also, when the nut requires extra tightening, please conduct this job in accordance with the instruction manual.

Nut Tightening Torque for Piping

Body size	Torque (N·m)
1	0.7 to 0.9
2	1.6 to 1.8
3	3.2 to 3.5
4	5.0 to 5.3
5	10.0 to 10.5
6	22.5 to 23.0

3. Use sealant tape for piping the taper thread parts such as the LQ3H and LQ3L.

Tape the ridges tightly with the sealant tape, starting one ridge width left from thread end side. 3 to 4 larger of sealant tape are required.

Taper Thread Mounting Torque

Port size	Torque (N·m)
1/8	0.6 to 0.9
1/4	0.8 to 1.2
3/8	1.0 to 1.6
1/2	1.5 to 2.0
3/4	2.0 to 2.7
1	2.5 to 3.6

4. Nut tightening torque for a panel mount union

Nut Tightening Torque for a Panel Mount Union

Body size	Torque (N·m)
1	0.5 to 0.6
2	0.6 to 0.7
3	1.2 to 1.3
4	4.5 to 4.6
5	6.8 to 6.9
6	12.4 to 12.5



Series LQ3

High Purity Fluoropolymer Fittings Precautions 2

Be sure to read this before handling.

Operating Environment

⚠ Warning

1. Do not use in locations having an explosive atmosphere.
2. Do not operate in locations where vibration or impact occurs.
3. In locations near heat sources, block off radiated heat.

Maintenance

⚠ Warning

1. Perform maintenance in accordance with the procedures in the instruction manual.
Improper handling can cause damage.
2. When removing or reinstalling fittings, remove any remaining chemicals and carefully replace them with deionized water or air, etc., before beginning work activities.
3. Tightening of taper threads for piping
Because the taper threads are made of resin, minute leakage may gradually occur due to stress relaxation. Perform periodic inspections, and if leakage is detected correct the problem by additional tightening. If additional tightening becomes ineffective, replace the fitting with a new product.
4. Check the following during regular maintenance, and replace components as necessary.
 - a) Scratches, gouges, abrasion, corrosion
 - b) Twisting, flattening or distortion of tubing
 - c) Hardening, deterioration or softening of tubing
5. Do not repair or patch the replaced tubing or fittings for reuse.

Operating Precautions

⚠ Warning

1. Operate within the range of the maximum operating pressure.

⚠ Caution

1. After a long period of non-use, perform inspections before beginning operation.
2. Use sufficient care in the handling of the LQ series clean packaging types when opening the package.

Use of Tubing

⚠ Caution

1. Refer to the applicable tubing sizes shown below for tubing to be used.

Applicable Tubing Size

	Connection tubing size	O.D. (mm)		Internal thickness (mm)	
		Standard size	Tolerance	Standard size	Tolerance
Metric size	ø3 x ø2	3.0	+0.2 -0.1	0.5	±0.06
	ø4 x ø3	4.0			
	ø6 x ø4	6.0			
	ø8 x ø6	8.0	+0.3 -0.1	1.0	±0.1
	ø10 x ø8	10.0			
	ø12 x ø10	12.0			
	ø19 x ø16	19.0			
ø25 x ø22	25.0	1.5	±0.15		
Inch size	1/8" x 0.086"	3.18	+0.2 -0.1	0.5	±0.1
	3/16" x 1/8"	4.75		0.8	
	1/4" x 5/32"	6.35		1.2	
	3/8" x 1/4"	9.53	+0.3 -0.1	1.6	±0.15
	1/2" x 3/8"	12.7			
	3/4" x 5/8"	19.0			
	1" x 7/8"	25.4			

Related Products

Chemical Valve / Non-Metallic Exterior Series *LVQ*

Constructed without the use of screws

Non-metallic construction that does not use metal screws to fasten the body of the actuator.

Integral fitting construction (with the LQ3 series fittings)

Model		LVQ20-Z	LVQ30-Z	LVQ40-Z	LVQ50-Z	LVQ60-Z
Orifice diameter		ø4	ø8	ø10	ø16	ø22
Tubing size	Metric size	6	10	12	19	25
	Inch size	1/4	3/8	1/2	3/4	1



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