

# Air Operated Type Integral Fitting Type (Hyper Fittings) Series *LVC*

## How to Order Valves (Single Type)

LVC 2 0 - S 06

### Body class

Symbol	Body class	Orifice dia.
2	2	ø4
3	3	ø8
4	4	ø10
5	5	ø16
6	6	ø22

### Valve type

0	N.C.
1	N.O.
2	Double acting

### LQ2 integral fitting



Note) Refer to variations in the table below for valve type combinations.

### Applicable tubing size

Symbol	Connecting tubing O.D.	Body class	2	3	4	5	6
<b>Metric sizes</b>							
03	ø3		●				
04	ø4		●				
06	ø6		○	●			
08	ø8			●			
10	ø10			○	●		
12	ø12				○	●	
19	ø19					○	●
25	ø25						○
<b>Inch sizes</b>							
03	1/8		●				
05	3/16		●				
07	1/4		○	●			
11	3/8			○	●		
13	1/2				○	●	
19	3/4					○	●
25	1						○

○ Basic size ● With reducer

Note) Applicable fittings for body class 6 is LQ1.

### Port B (OUT) different dia. size

Symbol	Application
Nil	Ports A & B same size
	Refer to the applicable tubing table to the left.
	Different diameter tubings can be selected within the same body class.

### Option

Nil	None
1	With flow rate adjustment
2	With bypass
3	With flow rate adjustment & bypass
4	With indicator



Note) Refer to "Variations" in the table below for option combinations. Options can not be combined each other.

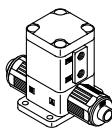
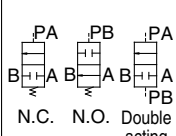
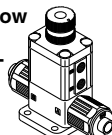
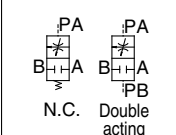
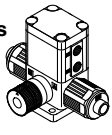
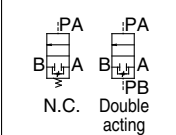
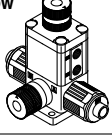
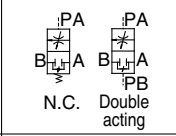
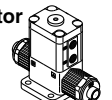
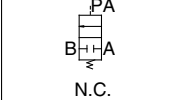
### Material

Symbol	Body	Actuator section	Dia- phragm	Applicable option				Note
		End plate		1	2	3	4	
Nil	PFA	PPS	PTFE	●	●	●	●	—
F	PFA	PVDF	PTFE					Hydrofluoric acid compatible (Only LVC40, 50 type)
N	PFA	PPS	PTFE	●	●	●	●	Ammonium hydroxide compatible

### Pilot port thread type

Symbol	Body class	Thread type
Nil	2	M5
	3, 4, 5, 6	Rc 1/8
N	3, 4, 5, 6	NPT 1/8

## Variations

		Model		LVC20	LVC30	LVC40	LVC50	LVC60
		Orifice diameter		ø4	ø8	ø10	ø16	ø22
		Tubing O.D.	Metric	3, 4, 6	6, 8, 10	10, 12	12, 19	19, 25
			Inch	1/8, 3/16, 1/4	1/4, 3/8	3/8, 1/2	1/2, 3/4	3/4, 1
Type	Symbol	Valve type						
<b>Basic type</b> 	 N.C. N.O. Double acting	N.C.	○	○	○	○	○	
		N.O.	○	○	○	○	○	
		Double acting	○	○	○	○	○	
<b>With flow rate adjustment</b> 	 N.C. Double acting	N.C.	○	○	○	○	○	
		Double acting	○	○	○	○	○	
<b>With bypass</b> 	 N.C. Double acting	N.C.	—	○	○	○	—	
		Double acting	—	○	○	○	—	
<b>With flow rate adjustment &amp; bypass</b> 	 N.C. Double acting	N.C.	—	○	○	○	—	
		Double acting	—	○	○	○	—	
<b>With indicator</b> 	 N.C.	N.C.	○	○	○	○	○	

LVC

LVA

LVH

LVD

LVQ

LQ1

LVN

TL/TIL

LQ3



## Standard Specifications

Model		LVC20	LVC30	LVC40	LVC50	LVC60
Tubing O.D.	Metric size	6	10	12	19	25
	Inch size	1/4	3/8	1/2	3/4	1
Orifice diameter		ø4	ø8	ø10	ø16	ø22
Flow characteristics	Av x 10 <sup>-6</sup> m <sup>2</sup>	8.4	40.8	60	144	192
	Cv	0.35	1.7	2.5	6	8
Withstand pressure (MPa)		1				
Operating pressure (MPa)		0 to 0.5			0 to 0.4	
Back pressure (MPa)	N.C./N.O.	0.3 or less			0.2 or less	
	Double acting	0.4 or less			0.3 or less	
Valve leakage (cm <sup>3</sup> /min)		0 (with water pressure)				
Pilot air pressure (MPa)		0.3 to 0.5				
Pilot port size		M5	Rc 1/8, NPT 1/8			
Fluid temperature (°C)		0 to 100				
Ambient temperature (°C)		0 to 60				
Mass (kg)		0.09	0.23	0.42	0.86	1.00



Note 1) Contact SMC if the valve is to be used with vacuum and B → A flow.

## Different Diameter Tubing Applicable with Reducer

Different diameter tubing can be selected (within a body class) by using a nut and insert bushing (reducer).

● With reducer

Body class	Tubing O.D.														
	Metric sizes							Inch sizes							
	3	4	6	8	10	12	19	25	1/8	3/16	1/4	3/8	1/2	3/4	1
2	●	●	○	—	—	—	—	—	●	●	○	—	—	—	—
3	—	—	●	●	○	—	—	—	—	—	●	○	—	—	—
4	—	—	—	—	●	○	—	—	—	—	—	●	○	—	—
5	—	—	—	—	—	●	○	—	—	—	—	—	●	○	—
6	—	—	—	—	—	—	●	○	—	—	—	—	—	●	○



Note) Refer to page 489 for information on changing tubing sizes.

## ⚠ Specific Product Precautions

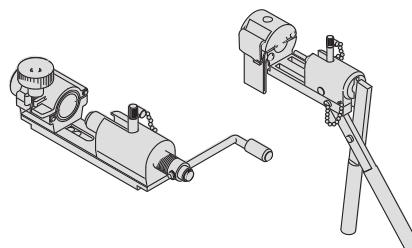
Be sure to read before handling. Refer to front matters 42 and 43 for Safety Instructions, and pages 491 and 492 for High Purity Chemical Valve Precautions.

### Piping

#### ⚠ Caution

1. Connect tubing with special tools.

Refer to the pamphlet "High-Purity Fluoropolymer Fittings HYPER FITTING®/Series LQ1, 2 Work Procedure Instructions" (M-E05-1) for connecting tubing and special tools. (Downloadable from our web site.)



#### ⚠ Caution

2. Tighten the nut to the end surface of the body. As a guide, refer to the proper tightening torques shown below.

#### Tightening torque for piping

Body class	Torque (N·m)
2	1.5 to 2.0
3	3.0 to 3.5
4	7.5 to 9.0
5	11.0 to 13.0
6	5.5 to 6.0