

Manually Operated Integrated Fitting Type/Threaded Type *LVH Series*

How to Order Valve (Single Type)

Body class

| Symbol | Body class | Orifice dia. |
|--------|------------|--------------|
| 2 | 2 | ø4 |
| 3 | 3 | ø8 |
| 4 | 4 | ø10 |

Integrated fitting type

Threaded type

Body class

| Symbol | Body class | Orifice dia. |
|--------|------------|--------------|
| 2 | 2 | ø4 |
| 3 | 3 | ø8 |
| 4 | 4 | ø12 |

Valve type

| Symbol | Type |
|--------|------|
| 0 | N.C. |

Lever operation

| Symbol | Type |
|--------|--------------------------|
| Nil | Non-locking (self-reset) |
| L | Locking |

Port size

| Symbol | Port size | Body class |
|--------|-----------|------------|
| 01 | 1/8 | 2 |
| 02 | 1/4 | |
| 02 | 1/4 | 3 |
| 03 | 3/8 | |
| 03 | 3/8 | 4 |
| 04 | 1/2 | |

Port B (OUT) different dia. size

| Symbol | Application |
|--------|-----------------------|
| Nil | Ports A & B same size |

Refer to the applicable tubing table on the right.

Applicable tubing size

| Symbol | Connecting tubing size | Body class | | | |
|--------------------|------------------------|------------|---|---|--|
| | | 2 | 3 | 4 | |
| Metric size | | | | | |
| 03 | 3 x 2 | ● | | | |
| 04 | 4 x 3 | ● | | | |
| 06 | 6 x 4 | ○ | ● | | |
| 08 | 8 x 6 | | ● | | |
| 10 | 10 x 8 | | ○ | ● | |
| 12 | 12 x 10 | | | ○ | |
| Inch size | | | | | |
| 03 | 1/8" x 0.086" | ● | | | |
| 05 | 3/16" x 1/8" | ● | | | |
| 07 | 1/4" x 5/32" | ○ | ● | | |
| 11 | 3/8" x 1/4" | | ○ | ● | |
| 13 | 1/2" x 3/8" | | | ○ | |

○ Basic size ● With reducer
*: Refer to page 52 for details of the applicable tubing sizes.

Material *1

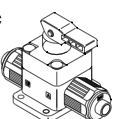
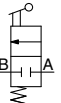



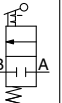
| Symbol | Body | Actuator section End plate | Diaphragm |
|--------|-----------------|-------------------------------|-----------|
| A | Stainless steel | PP | PTFE |
| B | PPS | PP | PTFE |
| | | PPS | |
| C | PFA | PP | PTFE |
| | | PPS | |

*1: Refer to Variations for port size and material combinations.

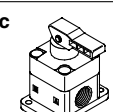
Pilot port thread type

| Symbol | Thread type |
|--------|-------------|
| Nil | Rc |
| N | NPT |
| F | G |

Integrated Fitting Type Variations

| | | Model | | LVH20 | LVH30 | LVH40 |
|-------|---|---|--------|---|--|---|
| | | Orifice diameter | | ø4 | ø8 | ø10 |
| | | Tubing O.D. | Metric | 3, 4, 6 | 6, 8, 10 | 10, 12 |
| | | | Inch | 1/8, 3/16, 1/4 | 1/4, 3/8 | 3/8, 1/2 |
| | | Type | Symbol | Valve type | | |
| Basic |  |  | N.C. |  |  |  |
| | Non-locking | | | | | |
| |  | Locking | | | | |

Threaded Type Variations

| | | Model | | | LVH30 | | | LVH40 | | |
|-------|---|---------------------|-----|-----|---------------------|-----|-----|---------------------|-----|-----|
| | | LVH20 | | | ø4 | | | ø8 | | |
| | | Orifice diameter | | | ø4 | | | ø8 | | |
| | | Port size | | | 1/8 | 1/4 | 1/4 | 1/4 | 3/8 | 3/8 |
| | | Valve type | | | 1/4 | 3/8 | 3/8 | 3/8 | 1/2 | 1/2 |
| | | N.C. | | | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| Basic |  | Stainless steel 316 | PPS | PFA | Stainless steel 316 | PPS | PFA | Stainless steel 316 | PPS | PFA |
| | Non-locking | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Locking | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |



⚠ Precautions

Be sure to read this before handling the products. Refer to the back cover for Safety Instructions, and pages 51 and 52 for High Purity Chemical Liquid Valve Precautions.

Piping

⚠ Caution

Integrated fitting type

1. Connect tubing with special tools.
Refer to the catalog "High-Purity Fluoropolymer Fittings Hyper Fittings/LQ1, 2 Series Work Procedure Instructions" (M-E05-1) for connecting tubing and special tools. (Downloadable from the SMC web-site.)



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 |

Threaded type

1. Avoid using metal fittings with a resin body (taper threads).

This can cause damage to the valve body.

Standard Specifications: Integrated Fitting Type

| Model | | LVH20 | LVH30 | LVH40 |
|---------------------------|-------------|-----------------------------------|-------|-------|
| Tubing O.D. ^{*1} | Metric size | 6 | 10 | 12 |
| | Inch size | 1/4 | 3/8 | 1/2 |
| Orifice diameter | | ø4 | ø8 | ø10 |
| Flow rate characteristics | Kv | 0.3 | 1.4 | 2.1 |
| | Cv | 0.35 | 1.7 | 2.5 |
| Withstand pressure [MPa] | | 1 | | |
| Operating pressure [MPa] | A → B | 0 to 0.5 | | |
| | B → A | 0 to 0.2 | | |
| Back pressure [MPa] | | 0.3 or less | | |
| Valve leakage [cm³/min] | | 0 (with water pressure) | | |
| Action | | Toggle type (non-locking/locking) | | |
| Fluid temperature [°C] | | 0 to 60 | | |
| Ambient temperature [°C] | | 0 to 60 | | |
| Weight [kg] | | 0.06 | 0.14 | 0.26 |

*1: Refer to page 52 for details of the applicable tubing sizes.

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 size | | | | | | Inch size | | | | |
| | 3 | 4 | 6 | 8 | 10 | 12 | 1/8 | 3/16 | 1/4 | 3/8 | 1/2 |
| 2 | ● | ● | ○ | — | — | — | ● | ● | ○ | — | — |
| 3 | — | — | ● | ● | ○ | — | — | — | ● | ○ | — |
| 4 | — | — | — | — | ● | ○ | — | — | — | ● | ○ |

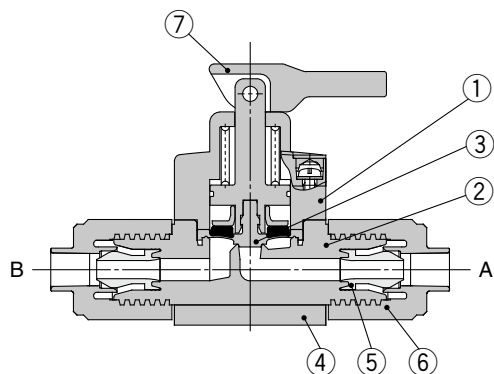
*: Refer to page 49 for information on changing tubing sizes.

Standard Specifications: Threaded Type

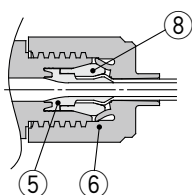
| Model | | LVH20 | LVH30 | LVH40 |
|---------------------------|-----------------|-----------------------------------|----------|----------|
| Port size | | 1/8, 1/4 | 1/4, 3/8 | 3/8, 1/2 |
| Orifice diameter | | ø4 | ø8 | ø12 |
| Flow rate characteristics | Kv | 0.3 | 1.4 | 2.1 |
| | Cv | 0.35 | 1.7 | 2.5 |
| Withstand pressure [MPa] | | 1 | | |
| Operating pressure [MPa] | A → B | 0 to 0.5 | | |
| | B → A | 0 to 0.2 | | |
| Back pressure [MPa] | | 0.3 or less | | |
| Valve leakage [cm³/min] | | 0 (with water pressure) | | |
| Action | | Toggle type (non-locking/locking) | | |
| Fluid temperature [°C] | | 0 to 60 | | |
| Ambient temperature [°C] | | 0 to 60 | | |
| Weight [kg] | Stainless steel | 0.15 | 0.36 | 0.71 |
| | PPS | 0.04 | 0.09 | 0.17 |
| | PFA | 0.05 | 0.11 | 0.20 |

Construction

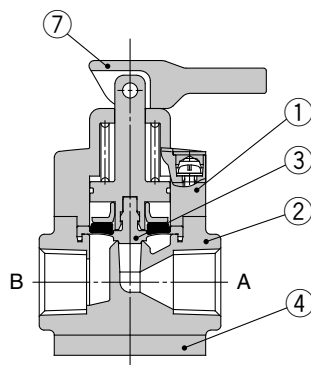
Integrated fitting type



With reducer



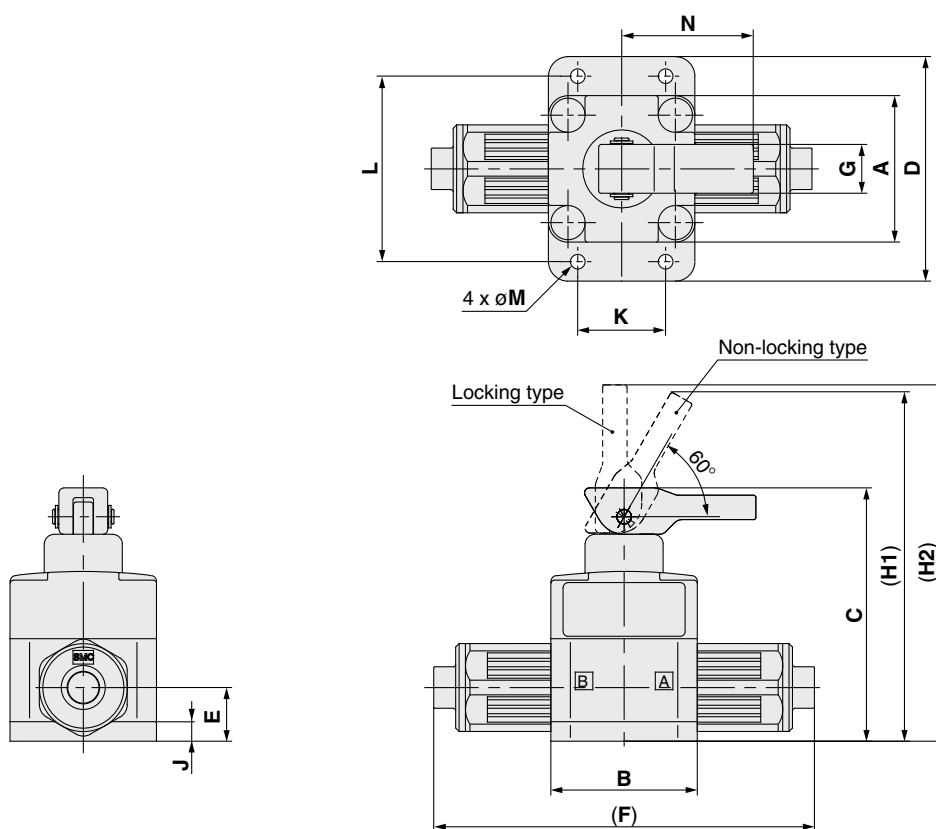
Threaded type



Component Parts

| No. | Description | Material | Note |
|-----|------------------|-----------------|-------------------------|
| 1 | Actuator section | PP | — |
| 2 | Body | PFA | Integrated fitting type |
| | | Stainless steel | Threaded type |
| | | PPS | |
| | | PFA | |
| 3 | Diaphragm | PTFE | — |
| 4 | End plate | PPS | PFA body only |
| 5 | Insert bushing | PFA | — |
| 6 | Nut | PFA | — |
| 7 | Lever | PP | — |
| 8 | Collar | PFA | — |

Dimensions: Integrated Fitting Type



Dimensions

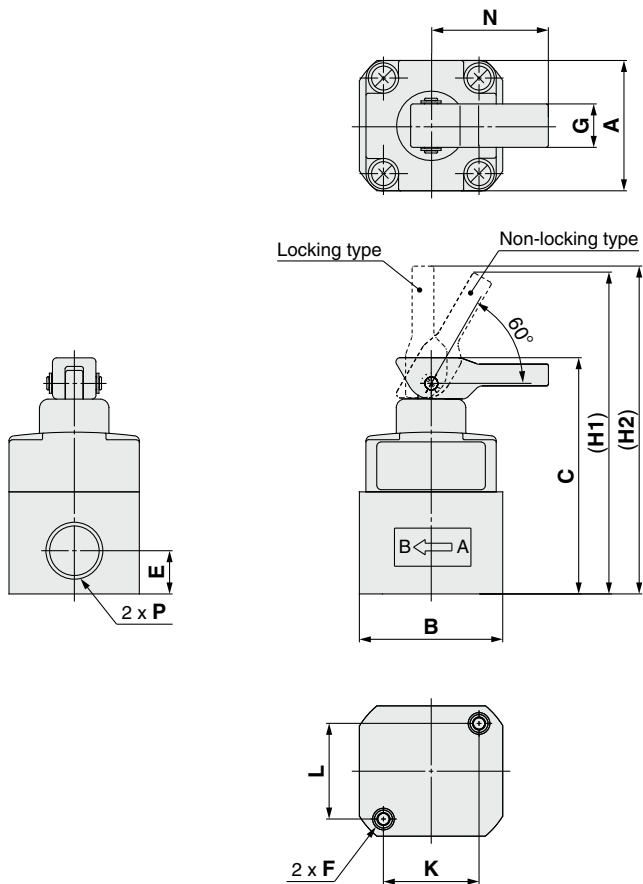
| Model | A | B | C | D | E | F | G | H1 | H2 | J | K | L | M | N |
|--------|----|----|------|----|------|-----|------|------|-----|-----|----|----|-----|------|
| LVH20□ | 30 | 30 | 52 | 44 | 11 | 79 | 10 | 72.5 | 74 | 4 | 20 | 37 | 3.5 | 27 |
| LVH30□ | 36 | 47 | 81.5 | 56 | 16.5 | 106 | 19 | 111 | 113 | 7.5 | 34 | 46 | 5.5 | 37.5 |
| LVH40□ | 46 | 60 | 100 | 68 | 22.5 | 131 | 20.5 | 139 | 143 | 8 | 42 | 57 | 5.5 | 50 |

[mm]

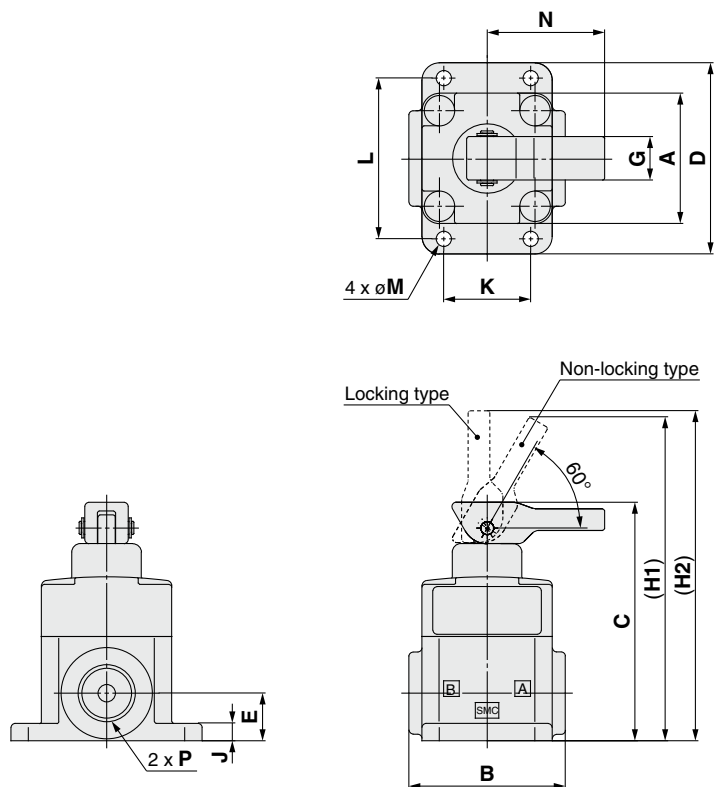
LVH Series

Dimensions: Threaded Type

Body material: Stainless steel

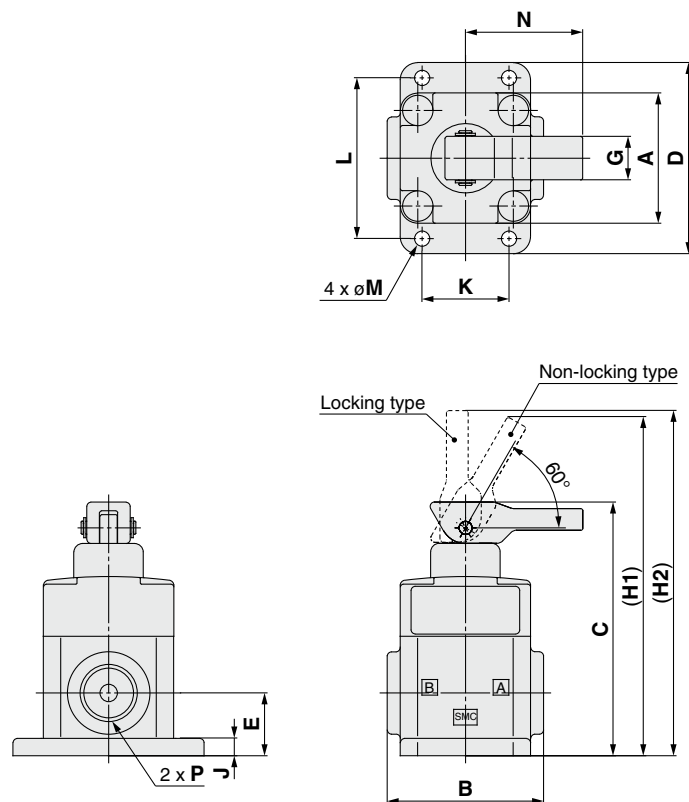


Body material: PPS



Dimensions: Threaded Type

Body material: PFA



Integrated Fitting Type
LVC

Threaded Type
LVA

Organic Solvents Compatible
LVA

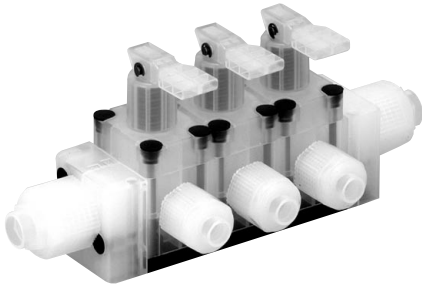
Manually Operated
LVH

Organic Solvents Compatible
LVH

Dimensions

| Body material | Model | A | B | C | D | E | F | G | H1 | H2 | J | K | L | M | N | P |
|-----------------|--------|----|----|------|----|------|-----------|------|-------|-------|-----|------|------|-----|----|------------------------------------|
| Stainless steel | LVH20□ | 30 | 33 | 54.5 | — | 10 | M5 x 0.8 | 10 | 75 | 76.5 | — | 22 | 22 | — | 27 | Rc1/8, 1/4, NPT1/8, 1/4, G1/8, 1/4 |
| | LVH30□ | 36 | 47 | 81 | — | 13 | M6 x 1 | 19 | 110.5 | 112.5 | — | 37 | 26 | — | 37 | Rc1/4, 3/8, NPT1/4, 3/8, G1/4, 3/8 |
| | LVH40□ | 46 | 60 | 99 | — | 16 | M8 x 1.25 | 20.5 | 138 | 142 | — | 47.5 | 33.5 | — | 50 | Rc3/8, 1/2, NPT3/8, 1/2, G3/8, 1/2 |
| PPS | LVH20□ | 30 | 36 | 55 | 44 | 11 | — | 10 | 75.5 | 77 | 4 | 20 | 37 | 3.5 | 27 | Rc1/4, NPT1/4, G1/4 |
| | LVH30□ | 36 | 47 | 80 | 56 | 15 | — | 19 | 109.5 | 111.5 | 7.5 | 34 | 46 | 5.5 | 37 | Rc3/8, NPT3/8, G3/8 |
| | LVH40□ | 46 | 60 | 99.5 | 68 | 22 | — | 20.5 | 138.5 | 142.5 | 8 | 42 | 57 | 5.5 | 50 | Rc1/2, NPT1/2, G1/2 |
| PFA | LVH20□ | 30 | 36 | 58.5 | 44 | 14.5 | — | 10 | 79 | 80.5 | 4 | 20 | 37 | 3.5 | 27 | Rc1/4, NPT1/4, G1/4 |
| | LVH30□ | 36 | 47 | 84 | 56 | 19 | — | 19 | 113.5 | 115.5 | 7.5 | 34 | 46 | 5.5 | 37 | Rc3/8, NPT3/8, G3/8 |
| | LVH40□ | 46 | 60 | 99.5 | 68 | 22 | — | 20.5 | 138.5 | 142.5 | 8 | 42 | 57 | 5.5 | 50 | Rc1/2, NPT1/2, G1/2 |

LVH Series Integrated Fitting Type Manifolds



Manifold Specifications

| Model | LLH2A | LLH3A | LLH4A |
|-------------------------|--------------------------|-------------|-------------|
| Manifold type | Stacking | | |
| P (IN), A (OUT) type | Common IN/Individual OUT | | |
| Valve stations | 2 to 5 stations | | |
| Tubing size *1 (port P) | 3/8" x 1/4" | 1/2" x 3/8" | 3/4" x 5/8" |
| Tubing size (port A) | 1/4" x 5/32" | 3/8" x 1/4" | 1/2" x 3/8" |

*1: Refer to page 52 for details of the applicable tubing sizes.

*: Please contact SMC if the manifold will be used with A → P flow.

How to Order Manifold Base

LLH 2 A - 05 - S 11

Body class

| Symbol | Body class |
|--------|------------|
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |

Base type

| Symbol | Base type |
|--------|-----------|
| A | Stacking |

Manifold stations

| Symbol | Manifold stations |
|--------|-------------------|
| 02 | 2 stations |
| ⋮ | ⋮ |
| 05 | 5 stations |

LQ2 integrated fitting

Tubing size for port P and L side connection *1

| Symbol | Tubing size | Fittings | Body class |
|--------|----------------------|----------|------------|
| 00 | Plug | — | 2 to 4 |
| 06 | 6 x 4 | 3 | 2 |
| 07 | 1/4" x 5/32" | | |
| 08 | 8 x 6 | | |
| 10 | 10 x 8 | | |
| 11 | 3/8" x 1/4" | 4 | 3 |
| 10 | 10 x 8 | | |
| 11 | 3/8" x 1/4" | | |
| 12 | 12 x 10 | | |
| 13 | 1/2" x 3/8" | 5 | 4 |
| 12 | 12 x 10 | | |
| 13 | 1/2" x 3/8" | | |
| 19 | 19 x 16, 3/4" x 5/8" | | |

Tubing size for port P and R side connection *1

| Symbol | Tubing size | Fittings | Body class |
|--------|--------------------------|----------|------------|
| Nil | L side, R side same size | | |
| 00 | Plug | — | 2 to 4 |
| 06 | 6 x 4 | 3 | 2 |
| 07 | 1/4" x 5/32" | | |
| 08 | 8 x 6 | | |
| 10 | 10 x 8 | | |
| 11 | 3/8" x 1/4" | 4 | 3 |
| 10 | 10 x 8 | | |
| 11 | 3/8" x 1/4" | | |
| 12 | 12 x 10 | | |
| 13 | 1/2" x 3/8" | 5 | 4 |
| 12 | 12 x 10 | | |
| 13 | 1/2" x 3/8" | | |
| 19 | 19 x 16, 3/4" x 5/8" | | |

*1: Refer to page 52 for details of the applicable tubing sizes.

*: Port P fitting of the manifold base is one size bigger than the body class. When ordering plug only, refer to Blanking plug (LQ series) in the **WEB catalog** after checking the fitting size.

How to Order Valve

LVH 2 0 A - S 07

Body class

| Symbol | Body class | Orifice dia. |
|--------|------------|--------------|
| 2 | 2 | ø4 |
| 3 | 3 | ø8 |
| 4 | 4 | ø10 |

Valve type

| Symbol | Valve type |
|--------|------------|
| 0 | N.C. |

Body type

| Symbol | Body type |
|--------|----------------------------|
| A | Stacking type for manifold |

Lever operation

| Symbol | Type |
|--------|--------------------------|
| Nil | Non-locking (self-reset) |
| L | Locking |

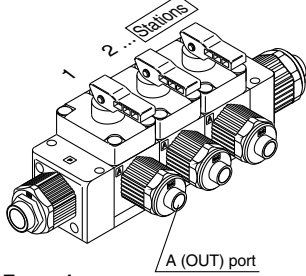
Tubing size

| Symbol | Tubing size | Body class |
|--------|-------------|------------|
| 03 | ø3, 1/8" | 2 |
| 04 | ø4 | |
| 05 | 3/16" | |
| 06 | ø6 | |
| 07 | 1/4" | 3 |
| 06 | ø6 | |
| 08 | ø8 | |
| 10 | ø10 | |
| 11 | 3/8" | 4 |
| 10 | ø10 | |
| 11 | 3/8" | |
| 12 | ø12 | |
| 13 | 1/2" | |

LQ2 integrated fitting

How to Order Manifold Assembly (Example)

Enter the part number of the valves to be mounted together with the manifold base part number.



Stations are counted from station 1 on the left side, with the A (OUT) ports in front.

<Example>

LLH2A-03-S11 1 set Manifold base part no.

* LVH20A-S07 2 sets Valve part no. (Stations 1 & 2)

* LVH20AL-S07 1 set Valve part no. (Station 3)

• Prefix the asterisk to the part no. of the valves, etc.

Enter together in order counting from station 1 on the left side, with the A (OUT) ports in front.

Integrated Fitting Type Manifold Variations

| Type | Symbol | Model | | |
|----------|--------|-------------------|-------|-------|
| | | LVH20 | LVH30 | LVH40 |
| | | Manifold material | | |
| | | PFA | | |
| Manifold | Symbol | Tubing size | | |
| | | 1/4 | | |
| | | 3/8 | | |
| Manifold | Symbol | Orifice diameter | | |
| | | 1/4 | | |
| | | 3/8 | | |
| Manifold | Symbol | Valve type | | |
| | | N.C. | | |
| | | N.C. | | |

Integrated Fitting Type
LVC

Threaded Type
LVA

Organic Solvents Compatible
LVA

Manually Operated
LVH

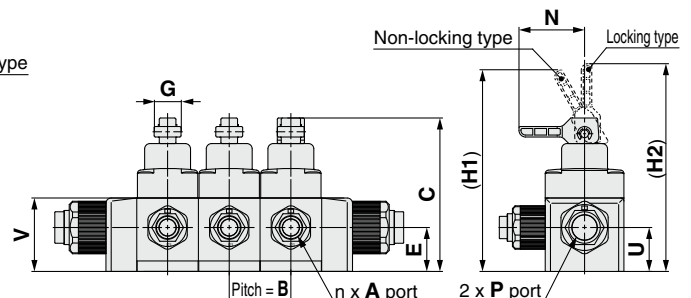
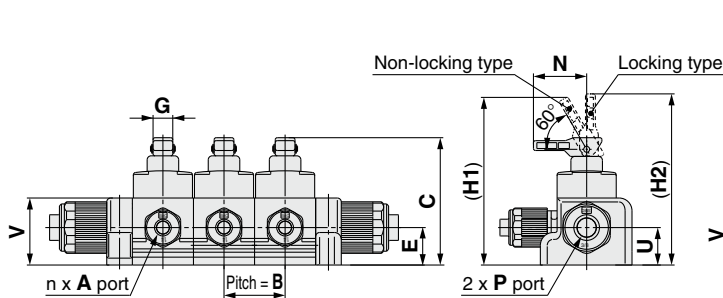
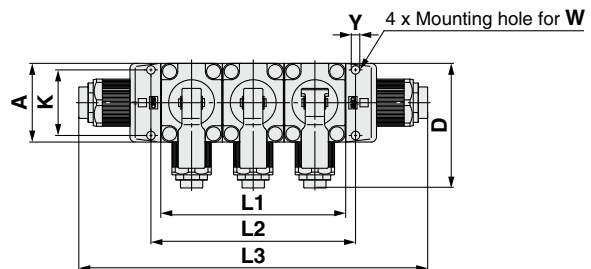
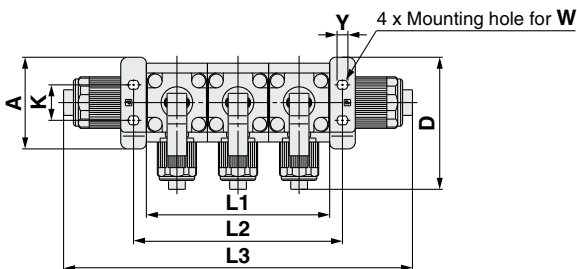
Organic Solvents Compatible
LVH

Dimensions

LLH□A- Stations -□□

Size 2

Size 3, 4

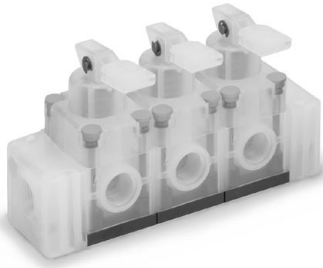


Dimensions

| Model | A | B | C | D | E | G | H1 | H2 | K | N | U | V | W | Y |
|-------|------|------|------|----|------|------|-------|-------|----|----|------|----|----|-----|
| LLH2A | 46.5 | 31 | 65 | 67 | 19 | 10 | 85.5 | 87 | 18 | 27 | 19 | 34 | M4 | 5.5 |
| LLH3A | 47 | 36.5 | 94.5 | 76 | 27.5 | 19 | 125.5 | 127.5 | 39 | 37 | 27.5 | 47 | M5 | 6.5 |
| LLH4A | 60 | 47 | 115 | 95 | 33.5 | 20.5 | 154 | 158 | 50 | 50 | 33.5 | 56 | M6 | 7.5 |

| Model | Station Symbol | [mm] | | | |
|-------|-------------------|------|-------|-----|-------|
| | | 2 | 3 | 4 | 5 |
| LLH2A | L1 | 62 | 93 | 124 | 155 |
| | L2 | 75 | 106 | 137 | 168 |
| | L3 | 146 | 177 | 208 | 239 |
| LLH3A | L1 | 73 | 109.5 | 146 | 182.5 |
| | L2 | 84 | 120.5 | 157 | 193.5 |
| | L3 | 183 | 219.5 | 256 | 292.5 |
| LLH4A | L1 | 94 | 141 | 188 | 235 |
| | L2 | 109 | 156 | 203 | 250 |
| | L3 | 219 | 266 | 313 | 360 |

LVH Series Threaded Type Manifolds

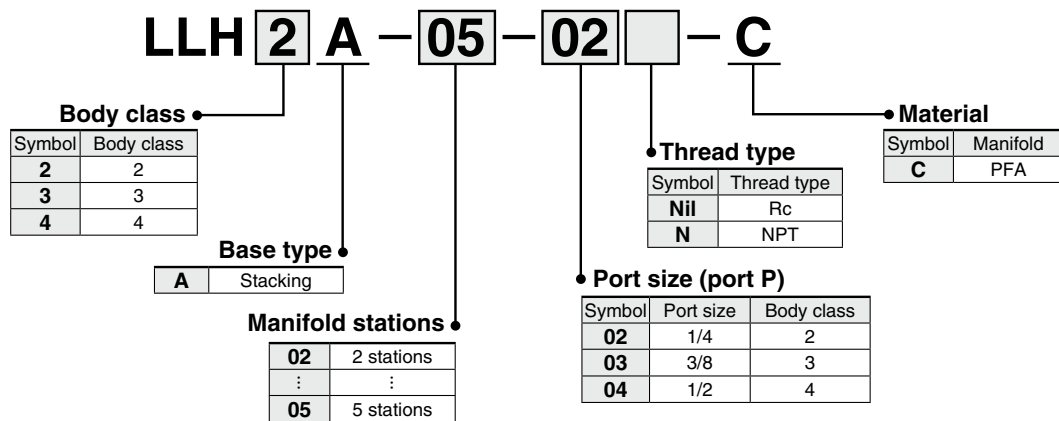


Manifold Specifications

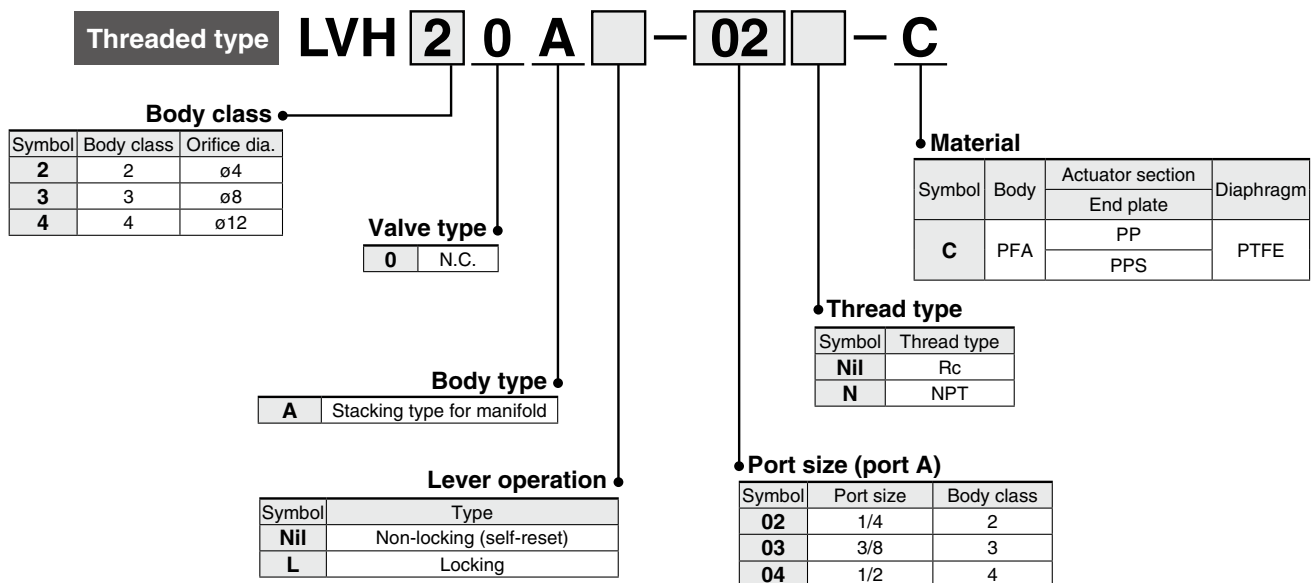
| Model | LLH2A | LLH3A | LLH4A |
|----------------------|--------------------------|-------|-------|
| Manifold type | Stacking | | |
| P (IN), A (OUT) type | Common IN/Individual OUT | | |
| Valve stations | 2 to 5 stations | | |
| Port size (port P) | 1/4 | 3/8 | 1/2 |
| Port size (port A) | 1/4 | 3/8 | 1/2 |

*: Please contact SMC if the manifold will be used with flow A → P.

How to Order Manifold Base

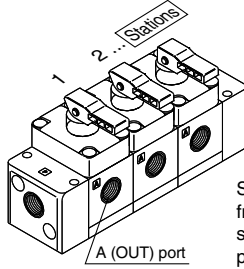


How to Order Valve



How to Order Manifold Assembly (Example)

Enter the part number of the valves to be mounted together with the manifold base part number.



Stations are counted from station 1 on the left side, with the A (OUT) ports in front.

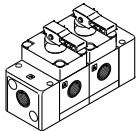
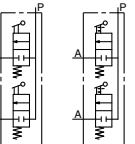
<Example>

LLH2A-03-02-C 1 set Manifold base part no.
* LVH20A-02-C 2 sets Valve part no. (Stations 1 & 2)
* LVH20AL-02-C 1 set Valve part no. (Station 3)

• Prefix the asterisk to the part no. of the valves, etc.

Enter together in order counting from station 1 on the left side, with the A (OUT) ports in front.

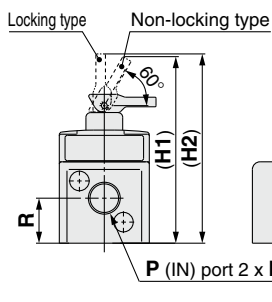
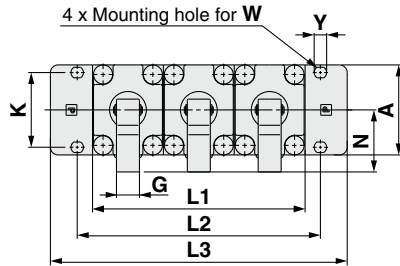
Threaded Type Manifold Variations

| Type | Symbol | Model | LVH20 | LVH30 | LVH40 |
|---|--|-------------------|-------|-------|-------|
| | | Manifold material | PFA | | |
| | | Port size | 1/4 | 3/8 | 1/2 |
| | | Orifice diameter | ø4 | ø8 | ø12 |
| Manifold | Symbol | Valve type | N.C. | | |
| | | | ○ | ○ | ○ |
|  |  Non-locking Locking | | | | |

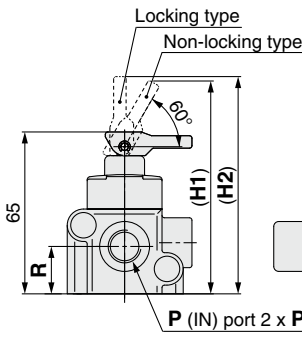
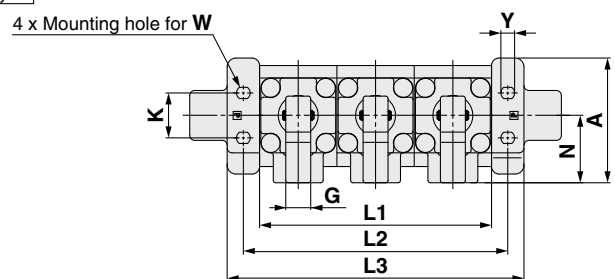
Dimensions

LLH□A-□Stations-□□-C

Size 2



Size 3, 4



Dimensions

| Model | A | B | C | E | G | H1 | H2 | K | N | P | R | U | W | Y |
|-------|----|----|-----|------|------|-------|-------|----|----|---------------|------|------|----|-----|
| LLH2A | 50 | 31 | 65 | 20.5 | 10 | 85.5 | 87 | 18 | 27 | Rc1/4, NPT1/4 | 19 | 34 | M4 | 5.5 |
| LLH3A | 47 | 37 | 90 | 25.5 | 19 | 112.5 | 114.5 | 39 | 37 | Rc3/8, NPT3/8 | 23.5 | 42.5 | M5 | 6.5 |
| LLH4A | 60 | 47 | 107 | 29 | 20.5 | 146 | 150 | 50 | 50 | Rc1/2, NPT1/2 | 24 | 48 | M6 | 7.5 |

| Model | Station Symbol | 2 | 3 | 4 | 5 |
|-------|----------------|-----|-----|-----|-----|
| LLH2A | L1 | 62 | 93 | 124 | 155 |
| | L2 | 75 | 106 | 137 | 168 |
| | L3 | 118 | 149 | 180 | 211 |
| LLH3A | L1 | 74 | 111 | 148 | 185 |
| | L2 | 90 | 127 | 164 | 201 |
| | L3 | 118 | 155 | 192 | 229 |
| LLH4A | L1 | 94 | 141 | 188 | 235 |
| | L2 | 112 | 159 | 206 | 253 |
| | L3 | 144 | 191 | 238 | 285 |

Manually Operated, Organic Solvents Compatible Double Ferrule Fittings/Metal Gasket Seal Fittings/Integrated Tubing

LVH□M Series

How to Order Valve

LVH 2 0 M - D 07 - AD - □

Body class

| Symbol | Body class | Orifice dia. |
|--------|------------|--------------|
| 2 | 2 | ø4 |
| 3 | 3 | ø8 |
| 4 | 4 | ø12 |
| 5 | 5 | ø20 |
| 6 | 6 | ø22 |

Fitting type

| Symbol | Type |
|--------|---------------------------------|
| D | With double ferrule fittings |
| G | With metal gasket seal fittings |
| T | Integrated tubing |

Option

| | |
|-----|--|
| Nil | None |
| E | Body wetted parts equivalent to EP grade |

Applicable tubing size

| Connecting tubing size | | | | | | |
|------------------------|------------------------|------------|---|---|---|---|
| Symbol | Connecting tubing size | Body class | | | | |
| | | 2 | 3 | 4 | 5 | 6 |
| Metric size | | | | | | |
| 06 | ø6 | ○ | | | | |
| 10 | ø10 | | ○ | | | |
| 12 | ø12 | | | ○ | | |
| 19 | ø19 | | | | ○ | |
| Inch size | | | | | | |
| 07 | 1/4 | ○ | | | | |
| 11 | 3/8 | | ○ | | | |
| 13 | 1/2 | | | ○ | | |
| 19 | 3/4 | | | | ○ | |
| 25 | 1 | | | | | ○ |

*: Metric size is only available for fitting types D and T.

Material

| Symbol | Body | Actuator section | Diaphragm | Seal | Buffer |
|--------|-----------------|------------------|-----------|------|--------|
| AD | Stainless steel | ADC | PTFE | FKM | FKM |
| ND | | | | EPDM | EPDM |

Standard Specifications



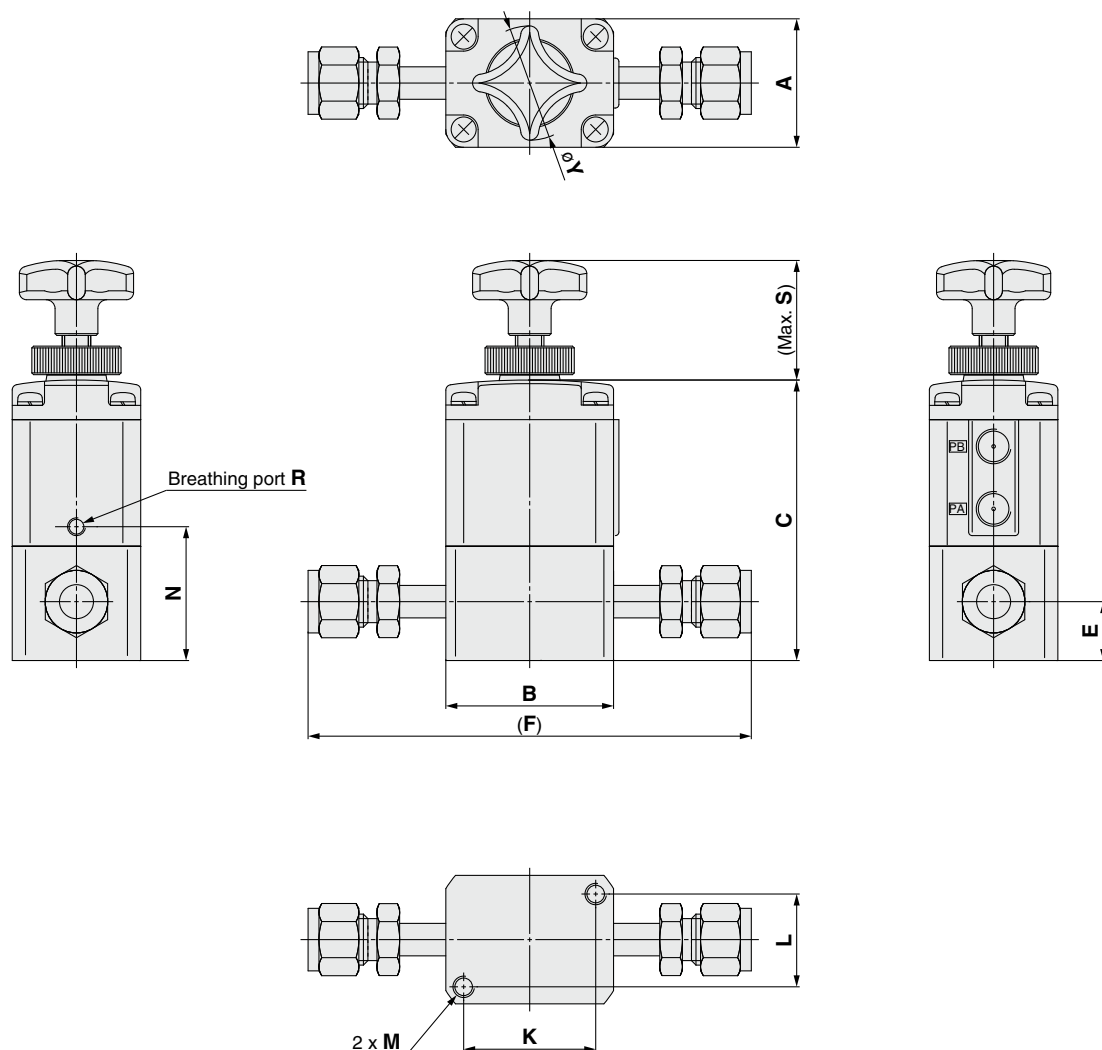
LVH20M-D07-AD
Double ferrule fittings

| Model | | LVH20M | LVH30M | LVH40M | LVH50M | LVH60M |
|---------------------------------------|---------------|---|--------|--------|--------|--------|
| Tubing O.D. | Metric size*1 | 6 | 10 | 12 | 19 | — |
| | Inch size | 1/4 | 3/8 | 1/2 | 3/4 | 1 |
| Orifice diameter | | ø4 | ø8 | ø12 | ø20 | ø22 |
| Flow rate characteristics | Kv | 0.3 | 1.4 | 2.8 | 5.1 | 6.8 |
| | Cv | 0.35 | 1.7 | 3.3 | 6 | 8 |
| Withstand pressure [MPa] | | 1 | | | | |
| Operating pressure [MPa] <A → B flow> | | 0 to 0.5 | | | | |
| Valve leakage [cm³/min] | | 0 (with water pressure) | | | | |
| Fluid temperature [°C] | | 0 to 100 | | | | |
| Ambient temperature [°C] | | 0 to 60 | | | | |
| Fitting type | | With double ferrule fittings, With metal gasket seal fittings, Integrated tubing | | | | |

*1: Metric size is only available for fitting types D and T.

Dimensions

Body material: Stainless steel
With double ferrule fittings



Integrated Fitting Type
LVC

Threaded Type
LVA

Organic Solvents Compatible
LVA

Manually Operated
LVH

Organic Solvents Compatible
LVH

Dimensions

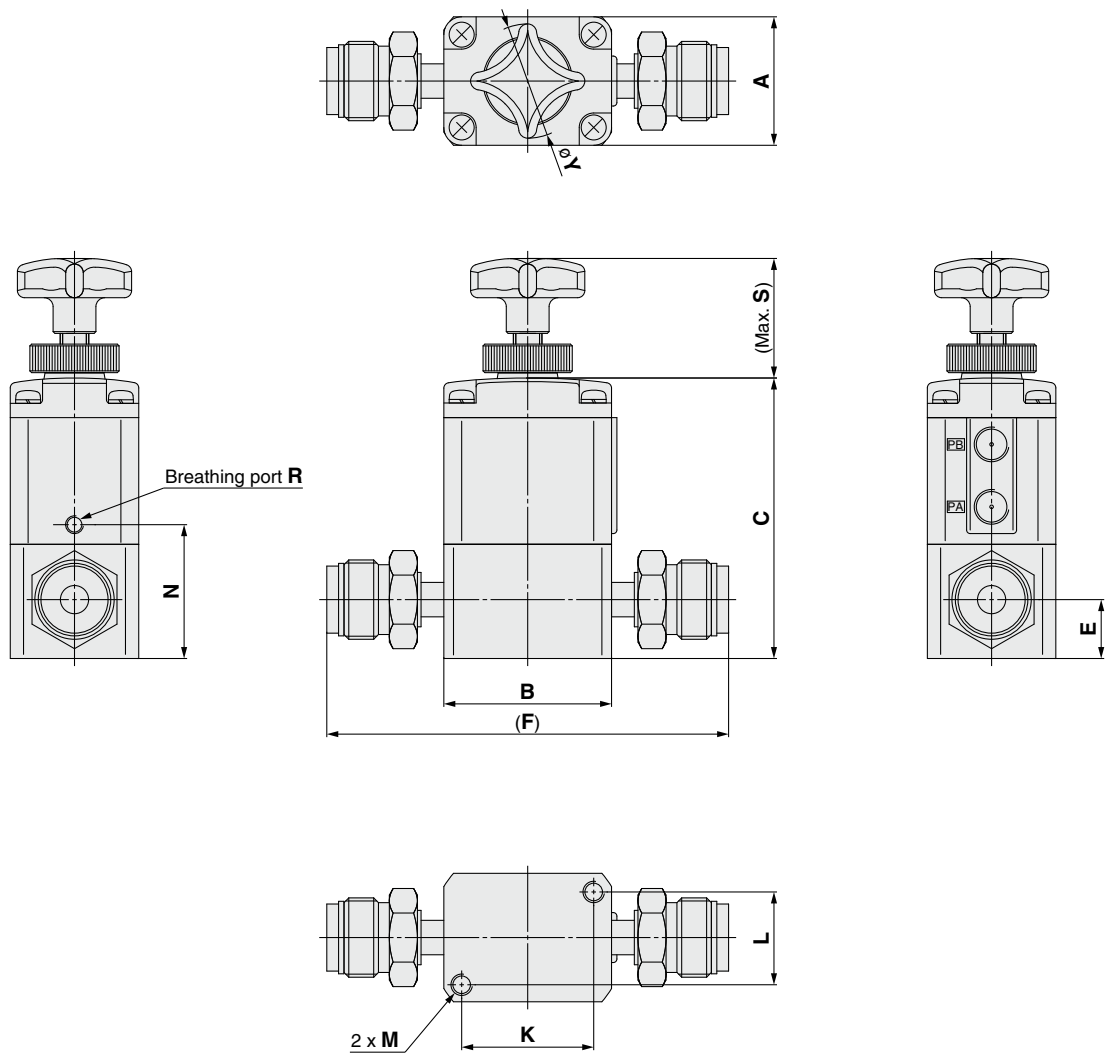
[mm]

| Model | A | B | C | E | F | K | L | M | N | R | S | Y |
|---------------------|----|----|------|------|-------|------|------|------------------------------|------|----------|------|----|
| LVH20M-D□-AD ND | 30 | 30 | 54.5 | 12 | 96.4 | 22 | 22 | M5 x 0.8 Thread depth 5 | 25.5 | M3 x 0.5 | 31.1 | 32 |
| LVH30M-D□-AD ND | 36 | 47 | 78.6 | 16.5 | 127 | 37 | 26 | M6 x 1 Thread depth 8 | 37.5 | M5 x 0.8 | 35.9 | 32 |
| LVH40M-D□-AD ND | 46 | 60 | 85.9 | 16.5 | 147.2 | 47.5 | 33.5 | M8 x 1.25 Thread depth 10 | 40 | M5 x 0.8 | 44 | 40 |
| LVH50M-D19-AD ND | 58 | 75 | 120 | 23 | 166.8 | 60 | 43 | M8 x 1.25 Thread depth 10 | 55 | M5 x 0.8 | 55.1 | 50 |
| LVH60M-D25-AD ND | 58 | 75 | 129 | 27 | 190.2 | 60 | 43 | M8 x 1.25 Thread depth 10 | 64 | M5 x 0.8 | 55.1 | 50 |

LVH□M Series

Dimensions

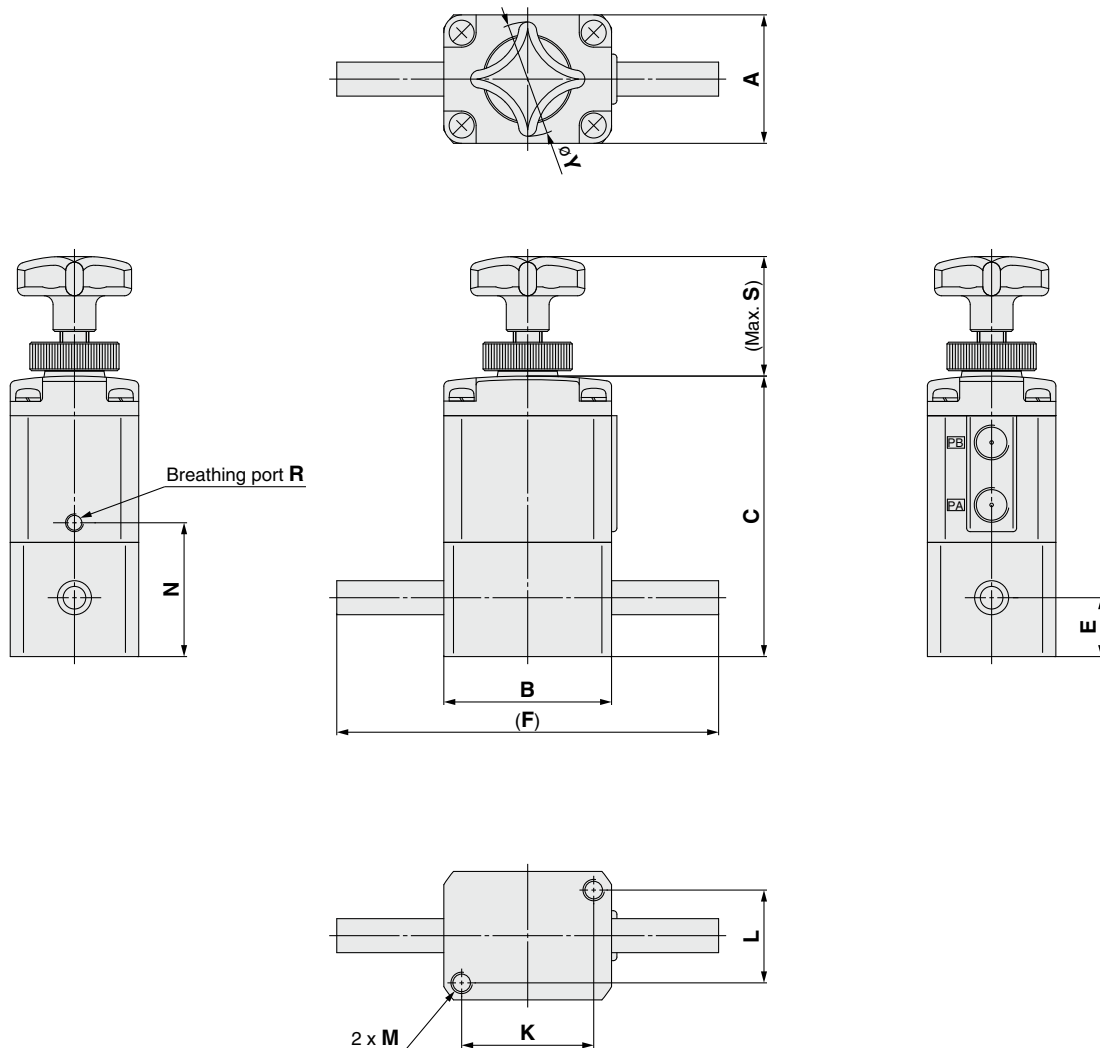
Body material: Stainless steel
With metal gasket seal fittings



| Dimensions | | | | | | | | | | | | [mm] |
|-----------------|----|----|------|------|-------|------|------|------------------------------|------|----------|------|------|
| Mode | A | B | C | E | F | K | L | M | N | R | S | Y |
| LVH20M-G07-ADND | 30 | 30 | 54.5 | 12 | 91 | 22 | 22 | M5 x 0.8 Thread depth 5 | 25.5 | M3 x 0.5 | 31.1 | 32 |
| LVH30M-G11-ADND | 36 | 47 | 78.6 | 16.5 | 112.6 | 37 | 26 | M6 x 1 Thread depth 8 | 37.5 | M5 x 0.8 | 35.9 | 32 |
| LVH40M-G13-ADND | 46 | 60 | 85.9 | 16.5 | 131.6 | 47.5 | 33.5 | M8 x 1.25 Thread depth 10 | 40 | M5 x 0.8 | 44 | 40 |
| LVH50M-G19-ADND | 58 | 75 | 120 | 23 | 178.2 | 60 | 43 | M8 x 1.25 Thread depth 10 | 55 | M5 x 0.8 | 55.1 | 50 |
| LVH60M-G25-ADND | 58 | 75 | 129 | 27 | 192.8 | 60 | 43 | M8 x 1.25 Thread depth 10 | 64 | M5 x 0.8 | 55.1 | 50 |

Dimensions

Body material: Stainless steel
Integrated tubing



Integrated Fitting Type
LVC

Threaded Type
LVA

Organic Solvents Compatible
LVA

Manually Operated
LVH

Organic Solvents Compatible
LVH

Dimensions

[mm]

| Model | A | B | C | E | F | K | L | M | N | R | S | Y |
|---------------------|----|----|------|------|-----|------|------|------------------------------|------|----------|------|----|
| LVH20M-T□-AD ND | 30 | 30 | 54.5 | 12 | 70 | 22 | 22 | M5 x 0.8 Thread depth 5 | 25.5 | M3 x 0.5 | 31.1 | 32 |
| LVH30M-T□-AD ND | 36 | 47 | 78.6 | 16.5 | 107 | 37 | 26 | M6 x 1 Thread depth 8 | 37.5 | M5 x 0.8 | 35.9 | 32 |
| LVH40M-T□-AD ND | 46 | 60 | 85.9 | 16.5 | 120 | 47.5 | 33.5 | M8 x 1.25 Thread depth 10 | 40 | M5 x 0.8 | 44 | 40 |
| LVH50M-T19-AD ND | 58 | 75 | 120 | 23 | 155 | 60 | 43 | M8 x 1.25 Thread depth 10 | 55 | M5 x 0.8 | 55.1 | 50 |
| LVH60M-T25-AD ND | 58 | 75 | 129 | 27 | 155 | 60 | 43 | M8 x 1.25 Thread depth 10 | 64 | M5 x 0.8 | 55.1 | 50 |

Fittings and Special Tools

Fittings

Changing Tubing Sizes

The tubing size can be changed within the same body class (body size) by replacing the nut and insert bushing.

| Body class | Tubing O.D. | | | | | | | | | | | | | | |
|------------|-------------|---|---|---|----|----|----|----|-----------|------|-----|-----|-----|-----|---|
| | Metric size | | | | | | | | Inch size | | | | | | |
| | 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 | — | — | — | — | — | — | ● | ○ | — | — | — | — | — | ● | ○ |

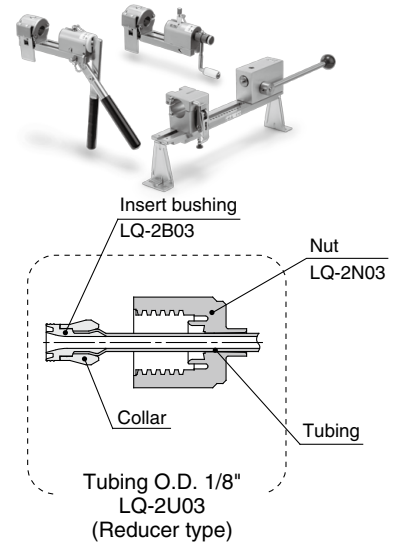
Part Components

| | Component parts | | |
|----------------|-----------------|--------|--------------------------|
| | Nut | Insert | Collar (insert assembly) |
| ○ Basic size | Yes | Yes | No |
| ● Reducer type | Yes | Yes | Yes |

Caution

1. Connect tubing with special tools.

Refer to the catalog “High-Purity Fluoropolymer Fittings Hyper Fittings/LQ1, 2 Series Work Procedure Instructions” (M-E05-1) for connecting tubing and special tools. (Downloadable from the SMC website.)

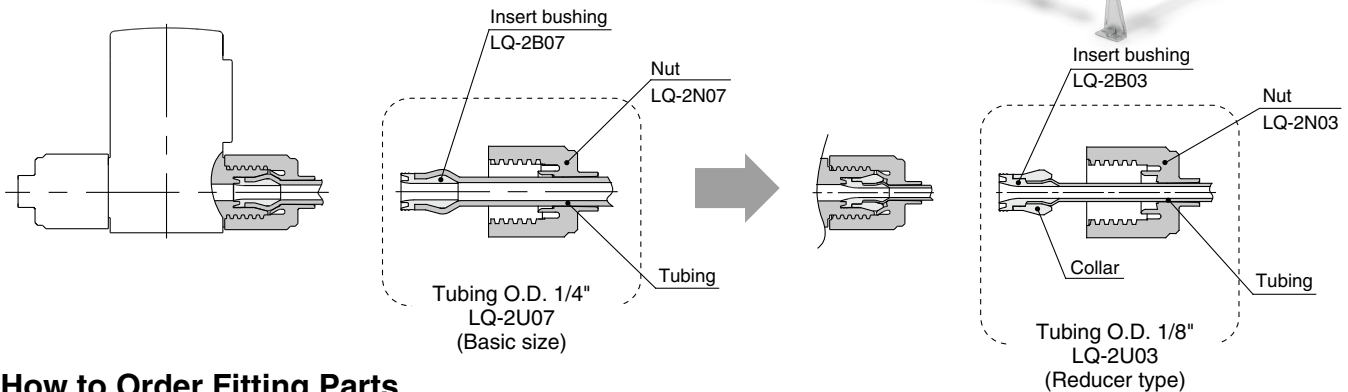


Changing the tubing size

Example) Changing the tubing from an O.D. 1/4" to O.D. 1/8" in body class 2.

Prepare an insert bushing and nut for 1/8" O.D. tubing (LQ-2U03) and change the tubing size. (Refer to How to Order Fitting Parts.)

*: Tubing is sold separately.



How to Order Fitting Parts

LQ — **2** **U** **03**

*: Type U is recommended when changing tubing sizes.

Fitting type

| Symbol | Applicable fitting |
|--------|--------------------|
| Nil | LQ2 |
| 1 | LQ1 |

Body class (fittings)

| Symbol | Body class (fittings) | Applicable fitting |
|--------|-----------------------|--------------------|
| 2 | 2 | LQ1 |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | LQ2 |
| 6 | 6 | |

Part type

| Symbol | Type |
|--------|----------------------|
| U | Insert bushing & nut |
| B | Insert bushing |
| N | Nut |

Tubing size*1

| Symbol | Tubing size | Body class (fittings) | Applicable fitting |
|--------|----------------------|-----------------------|--------------------|
| 03 | 1/8" x 0.086", 3 x 2 | 2 | LQ1 LQ2 |
| 04 | 4 x 3 | | |
| 05 | 3/16" x 1/8" | | |
| 06 | 6 x 4 | | |
| 07 | 1/4" x 5/32" | | |
| 06 | 6 x 4 | 3 | |
| 08 | 8 x 6 | | |
| 10 | 10 x 8 | | |
| 07 | 1/4" x 5/32" | | |
| 11 | 3/8" x 1/4" | | |
| 10 | 10 x 8 | 4 | |
| 12 | 12 x 10 | | |
| 11 | 3/8" x 1/4" | | |
| 13 | 1/2" x 3/8" | | |
| 12 | 12 x 10 | 5 | |
| 13 | 1/2" x 3/8" | | |
| 19 | 3/4" x 5/8", 19 x 16 | | |
| 19 | 3/4" x 5/8", 19 x 16 | 6 | |
| 25 | 1" x 7/8", 25 x 22 | | |

*1: Refer to page 52 for details of the applicable tubing sizes.



LV□ Series

Applicable Fluids

High Purity Air and Manually Operated Chemical Liquid Valves Material and Fluid Compatibility Check List

| Chemicals | Body material | | | Diaphragm material | | |
|---|---------------------|------------------|---------------------------------|--------------------|--------------------|-------------------------------|
| | Stainless steel 316 | Fluoro resin PFA | Polyphenylene sulfide resin PPS | Fluoro resin PTFE | Nitrile rubber NBR | Ethylene propylene rubber EPR |
| Acetone | ○ | ○ *1 | ○ *1 | ○ *2 | × | × |
| Ammonium hydroxide | ○ | ○ | ○ | ○ *2 | × | × |
| Isobutyl alcohol | ○ | ○ *1 | ○ *1 | ○ *2 | ○ | ○ |
| Isopropyl alcohol | ○ | ○ *1 | ○ *1 | ○ *2 | ○ | ○ |
| Hydrochloric acid | × | ○ | ○ | ○ | × | × |
| Ozone (dry) | ○ | ○ | ○ | ○ | × | ○ |
| Hydrogen peroxide Concentration 5% or less, 50°C or less | × | ○ | ○ | ○ | × | × |
| Ethyl acetate | ○ | ○ *1 | ○ *1 | ○ *2 | × | × |
| Butyl acetate | ○ | ○ *1 | ○ *1 | ○ *2 | × | × |
| Nitric acid (except fuming nitric acid) Concentration 10% or less | × | ○ | ○ | ○ *2 | × | × |
| DI water (deionized water) | ○ | ○ | ○ | ○ | × | ○ |
| Sodium hydroxide (caustic soda) Concentration 50% or less | ○ | ○ | ○ | ○ | × | × |
| Nitrogen gas | ○ | ○ | ○ | ○ | ○ | ○ |
| Ultrapure water | × | ○ | ○ | ○ | × | × |
| Toluene | ○ | ○ *1 | ○ *1 | ○ *2 | × | × |
| Hydrofluoric acid | × | ○ | × | ○ *2 | × | × |
| Sulfuric acid (except fuming sulfuric acid) | × | ○ | × | ○ *2 | × | × |
| Phosphoric acid Concentration 80% or less | × | ○ | × | ○ | × | × |

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

*1: Use a stainless steel body, as static electricity may be generated.

*2: Use caution as permeation may occur. The permeated fluid may effect the parts of other materials.

Table symbols ○ : Can be used.
○ : Can be used under certain conditions.
× : Cannot be used.

- Compatibility is indicated for fluid temperatures of 100°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 happened because of this data.
- Set the viscosity of a fluid to 300 cp or less.
If a fluid with a high viscosity is used, this may cause inadequate closing of the valve.



LV□ Series High Purity Chemical Liquid Valve Precautions 1

Be sure to read this before handling the products.
Refer to the back cover for Safety Instructions.

Design / Selection

⚠ Warning

1. Check the specifications.

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

2. Fluids

Operate after confirming the compatibility of the product's component materials with fluids, using the check list on page 50. Please contact SMC regarding fluids other than those in the check list. 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 catalog.

5. Ambient environment

Install in an environment where there is no effect from radiant heat caused by heat sources, etc., and use within the ambient temperature range. After confirming the compatibility of the product's component materials with the ambient environment, operate so that fluid does not adhere to the product's exterior surfaces.

6. Liquid seals

When circulating fluid:

Provide a relief valve in the system so that fluid does not get into the liquid seal circuit.

7. Countermeasures for static electricity

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

Mounting

⚠ Warning

1. If air leakage increases or equipment does not operate properly, stop operation.

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

2. Operation 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. Preparation before piping

Before piping is connected, it should be thoroughly flushed out with air or washed to remove chips, cutting oil and other debris from inside the pipe.

Install piping so that it does not apply pulling, pressing, bending or other forces on the valve body.

2. Use the tightening torques shown below for the pilot port.

Tightening Torque for Operating Port

| Operating port | Torque [N·m] |
|----------------|--|
| M5 | 1/6 turn with a tightening tool after first tightening by hand |
| Rc, NPT1/8 | 0.8 to 1.0 |

3. Use of metal fittings

Do not use metal fittings for piping on taper threads made of resin, as this may cause damage to the threads.

LVA PPS Body Ported Tightening Torque for Fittings

| Size | Breaking torque [N·m] | Tightening torque [N·m] | Guideline for tightening torque (Number of turns) |
|-------|-----------------------|-------------------------|---|
| LVA20 | 2 to 3 | 0.5 to 1 | 2 to 3 turns |
| LVA30 | 6 to 8 | 2 to 3 | 3 to 4 turns |
| LVA40 | 11 to 14 | 5 to 7 | 3 to 4 turns |
| LVA50 | 18 to 20 | 8 to 10 | 3 to 4 turns |

*: Guideline for tightening torque

Number of turns when the fitting is screwed into the body with 2 to 3 windings of sealant tape applied to threaded portion of the piping. The value may differ for types other than sealant type.

4. Use pilot ports and sensor (breathing) ports as indicated below.

| | PA port | PB port | Sensor (breathing) port |
|---------------|-----------|-----------|-------------------------|
| N.C. | Pressure | Breathing | Breathing |
| N.O. | Breathing | Pressure | Breathing |
| Double acting | Pressure | Pressure | Breathing |

For N.C. and N.O. types, the port which does not receive operating pressure is released to atmosphere. When intake and exhaust directly from the valve is not desired due to problems with the ambient environment or scattering of dust, etc., install piping and perform intake and exhaust at a location which does not present a problem.

5. Connect tubing with special tools.

Refer to the catalog "High-Purity Fluoropolymer Fittings Hyper Fittings/LQ1, 2 Series Work Procedure Instructions" (M-E05-1) for connecting tubing and special tools. (Downloadable from the SMC website.)





LV□ Series High Purity Chemical Liquid Valve Precautions 2

Be sure to read this before handling the products.
Refer to the back cover for Safety Instructions.

Operating Air Supply

⚠ Warning

1. Use clean air.

Do not use compressed air which includes chemicals, synthetic oils containing organic solvents, salt, or corrosive gases, etc., as this may cause damage or malfunction.

Operating Environment

⚠ Warning

1. Do not use in a location having an explosive atmosphere.
2. Do not operate in locations where vibration or impact occurs.
3. Do not use in locations where radiated heat will be received from nearby heat sources.
4. Do not use in environments which exceed the ambient temperature specifications of the product.

Maintenance

⚠ Warning

1. Maintenance should be performed in accordance with the procedures in the Operation Manual.
Incorrect handling can cause damage or malfunction of machinery and equipment, etc.
2. Before removing equipment or compressed air supply/exhaust devices, shut off the air and power supplies, and exhaust compressed air from the system.
Further, when restarting equipment after remounting or replacement, first confirm safety and then check the equipment for normal operation.
3. Perform work after removing residual chemicals and carefully replacing them with DI water (Deionized water) or air, etc.
4. Do not disassemble the product. Products which have been disassembled cannot be guaranteed.
If disassembly is necessary, please contact SMC.
5. In order to obtain optimum performance from valves, perform periodic inspections to confirm that there are no leaks from valves or fittings, etc.

⚠ Caution

1. Removal of drainage

Flush drainage from filters regularly.

Handling

⚠ Warning

1. Operate within the ranges of the maximum operating pressure and back pressure.

Handling

⚠ Caution

1. When the diaphragm is made of PTFE

Please note that when the product is shipped from the factory, gases such as N₂ and air may leak from the valve at a rate of 1 cm³/min (when pressurized).

2. When operated at a very low flow rate, the LV□ series with flow rate adjustment may vibrate, etc. depending on the operating conditions. Therefore, operate it after careful examination of the flow rate, pressure and piping conditions.
3. In the LV□ series, water hammering may occur depending on the fluid pressure conditions. In most cases, improvement is possible by adjusting the pilot pressure with a speed controller, etc., but the flow rate, pressure and piping conditions should be reviewed.
4. To adjust the flow rate for the LV□ series with flow rate adjustment, open gradually starting from the fully closed state.
Opening is accomplished by turning the adjustment knob counterclockwise. Additionally, do not apply excessive force to the adjustment knob when nearing a fully open or closed state. This may result in deformation of the orifice sheet surface or damage to the threaded portion of the adjustment knob. It is in the fully closed state when the product is shipped from the factory.
5. After a long period of nonuse, perform a test run before beginning regular operation.
6. Since the LVC is packaged in a clean room, use sufficient care in handling when opened.
7. Take extra care when setting the operating direction and when handling the lever of the LVH series.

Use of Tubing

⚠ Caution


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


Applicable Tubing Sizes


| | Connecting 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 | | 1.0 | ±0.1 |
| | ø6 x ø4 | 6.0 | | | |
| | ø8 x ø6 | 8.0 | | | |
| | ø10 x ø8 | 10.0 | +0.3 -0.1 | 1.5 | ±0.15 |
| | ø12 x ø10 | 12.0 | | | |
| | ø19 x ø16 | 19.0 | | | |
| Inch size | ø25 x ø22 | 25.0 | +0.2 -0.1 | 0.5 | ±0.1 |
| | 1/8" x 0.086" | 3.18 | | 0.8 | |
| | 3/16" x 1/8" | 4.75 | | 1.2 | ±0.12 |
| | 1/4" x 5/32" | 6.35 | | 1.6 | ±0.15 |
| | 3/8" x 1/4" | 9.53 | | | |
| | 1/2" x 3/8" | 12.7 | | | |
| | 3/4" x 5/8" | 19.0 | +0.3 | | |
| | 1" x 7/8" | 25.4 | -0.1 | | |

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

 **Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

 **Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

 **Danger :** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

Warning

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

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

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

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Revision history

Edition B * Body class 6, manifold specifications and options added to the LVC and LVA series.

* Manifold specifications added to the LVH series.

* Number of pages increased from 32 to 44.

GR

Edition C * 3 port added to the LVC and LVA series.

* The models with indicator added to the LVC and LVA series.

HX

Edition D * Organic solvents compatible products (LVA/LVH) added.

* Symbol changed.

* LVC-Z type added.

* Number of pages increased from 44 to 56.

UR

Safety Instructions

Be sure to read the “Handling Precautions for SMC Products” (M-E03-3) and “Operation Manual” before use.