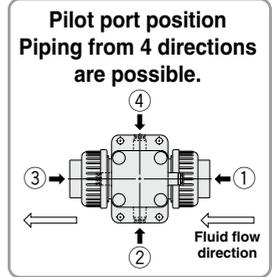
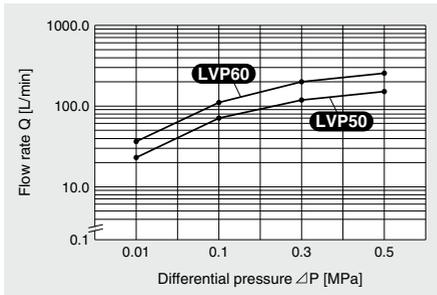


# Vinyl Chloride Air Operated Valve

## LVP Series

- Employs vinyl chloride CPVC for body material
- Fluid wetted part materials: Diaphragm: PTFE  
Body: CPVC  
O-ring can be selected: FKM (Standard)  
EPDM (Option)
- Applicable fluids: Deionized water, chemical liquids
- Low water hammer: Reduced by 50% compared with the standard type
- Export Trade Control Order Not applicable for list control
- Flow rate characteristics (Deionized water)



With PVC unfixed union

Applicable to rigid vinyl chloride tube

### How to Order

**LVP 5 0 W - 16A P2 -**

Valve type

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

Type

| Symbol | Type                  |
|--------|-----------------------|
| Nil    | Standard              |
| W      | Low water hammer type |

Rubber material

| Symbol | Material |
|--------|----------|
| Nil    | FKM      |
| N      | EPDM     |

Pilot port position (Refer to the figure above.)

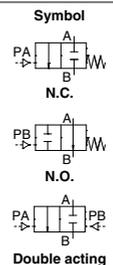
| Symbol | Position |
|--------|----------|
| Nil    | ①        |
| P2     | ②        |
| P3     | ③        |
| P4     | ④        |

#### Series

| Symbol | Body size | Orifice dia. |
|--------|-----------|--------------|
| 5      | 5         | ø16 mm       |
| 6      | 6         | ø22 mm       |

#### Applicable tubing size

| Symbol | Tubing outside diameter | Applicable series |
|--------|-------------------------|-------------------|
| 16A    | ø22 mm                  | LVP5□             |
| 20A    | ø26 mm                  | LVP6□             |
| 25A    | ø32 mm                  | LVP6□             |



#### Pilot port thread (fitting) type

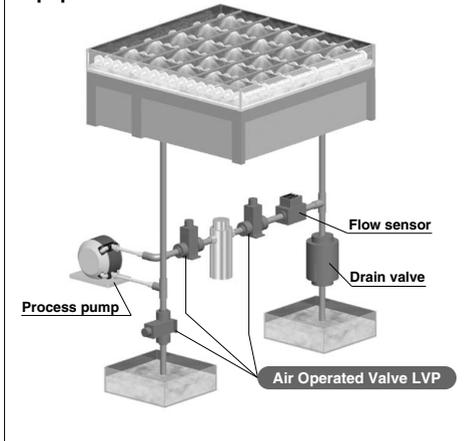
| Symbol | Thread (fitting) type   |
|--------|-------------------------|
| Nil    | ø6 mm One-touch fitting |
| 1      | Rc1/8                   |
| 2      | M5 x 0.8                |
| N      | NPT1/8                  |

#### Option

| Symbol | Option                           | Applicable valve type |      |               |
|--------|----------------------------------|-----------------------|------|---------------|
|        |                                  | N.C.                  | N.O. | Double acting |
| Nil    | None                             | ○                     | ○    | ○             |
| 1      | With flow rate adjustment        | ○                     | —    | ○             |
| 2      | With bypass                      | ○                     | —    | ○             |
| 3      | With flow rate adjustment/bypass | ○                     | —    | ○             |

### Application Example

Cleaning equipment



|      |
|------|
| LVC  |
| LVA  |
| LVH  |
| LVD  |
| LVQ  |
| LVP  |
| LVW  |
| LQ1  |
| LQ3  |
| LVN  |
| LQHB |
| TL   |
| TIL  |
| TLM  |
| TILM |
| TD   |
| TID  |
| TH   |
| TIH  |

# LVP Series

## Specifications

| Model                             |                                | LVP5□   | LVP6□  |
|-----------------------------------|--------------------------------|---|--|
| Fluid pressure                    |                                | 0 to 0.3 MPa  | 0 to 0.4 MPa   |
| Withstand pressure                |                                | 1 MPa   |  |
| Pilot pressure                    |                                | 0.3 to 0.5 MPa  |  |
| Back pressure                     | Valve type: N.C. type          | 0.2 MPa or less   |  |
|                                   | Valve type: N.O. type          | 0.2 MPa or less   |  |
|                                   | Valve type: Double acting type | 0.3 MPa or less   |  |
| Valve leakage                     |                                | 0 cm <sup>3</sup> /min (with water pressure 0.3 MPa)  | 0 cm <sup>3</sup> /min (with water pressure 0.4 MPa)   |
| Fluid                             |                                | Deionized water, chemical liquids<br>(Fluid wetted part materials, fluid that does not corrode rigid vinyl chloride tube) |  |
| Orifice diameter                  |                                | ø16 mm  | ø22 mm   |
| Flow rate characteristics Kv (Cv) |                                | 4.2 (5)   | 8.1 (9.5)  |
| Fluid temperature                 |                                | 0 to 60°C (No freezing)   |  |
| Ambient temperature               |                                | 0 to 60°C   |  |
| Fluid wetted part material        | Diaphragm                      | PTFE  |  |
|                                   | Body                           | CPVC  |  |
| Port size                         |                                | PVC unfixed union<br>(Nominal dia.: 16A)  | PVC unfixed union<br>(Nominal dia.: 20A or 25A)  |
| Applicable tube                   |                                | Rigid vinyl chloride tube <sup>Note 1)</sup><br>O.D. ø22 mm (Nominal dia.: 16A)   | Rigid vinyl chloride tube <sup>Note 1)</sup><br>O.D. ø26 mm (Nominal dia.: 20A)<br>O.D. ø32 mm (Nominal dia.: 25A) |
| Pilot port size                   |                                | ø6 mm One-touch fitting <sup>Note 2)</sup><br>Rc1/8, M5 x 0.8, NPT1/8   |  |
| Operating frequency               |                                | 10 times/min (reference)  |  |

Note 1) Rigid vinyl chloride tube complies with JIS K6742

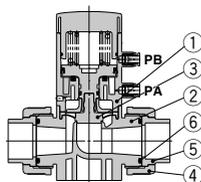
Note 2) SMC polyolefin tubing (TRH series) and soft polyolefin tubing (TPH series) are recommended for piping since the same mechanism and construction as SMC KP series are used for ø6 mm One-touch fittings.

Complement: Polyurethane tubing (TU series), nylon tubing (T series), and soft nylon tubing (TS series) can be used, but the degree of clean performance will be reduced.

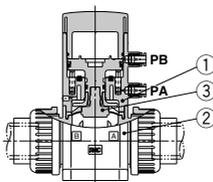
## Construction

### Standard type

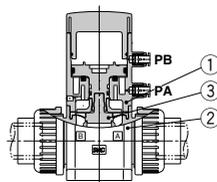
N.C. type



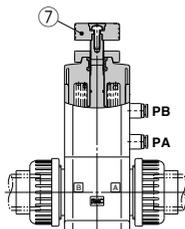
N.O. type



Double acting type



With flow rate adjustment



### Component Parts

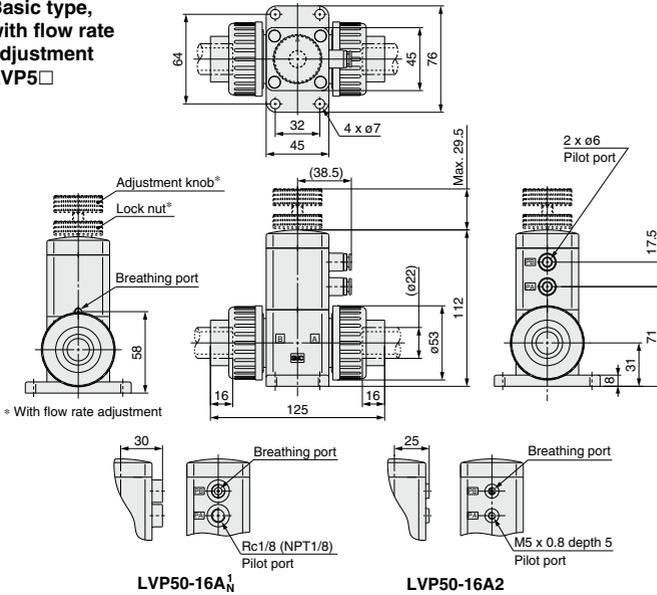
| No. | Description                | Material | Option |
|-----|----------------------------|----------|--------|
| 1   | Actuator section           | PPS      | —      |
| 2   | Body                       | CPVC     | —      |
| 3   | Diaphragm                  | PTFE     | —      |
| 4   | Union nut                  | U-PVC    | —      |
| 5   | Union end                  | U-PVC    | —      |
| 6   | O-ring                     | FKM      | EPDM   |
| 7   | Flow rate adjuster section | PPS      | —      |

### Replacement Parts

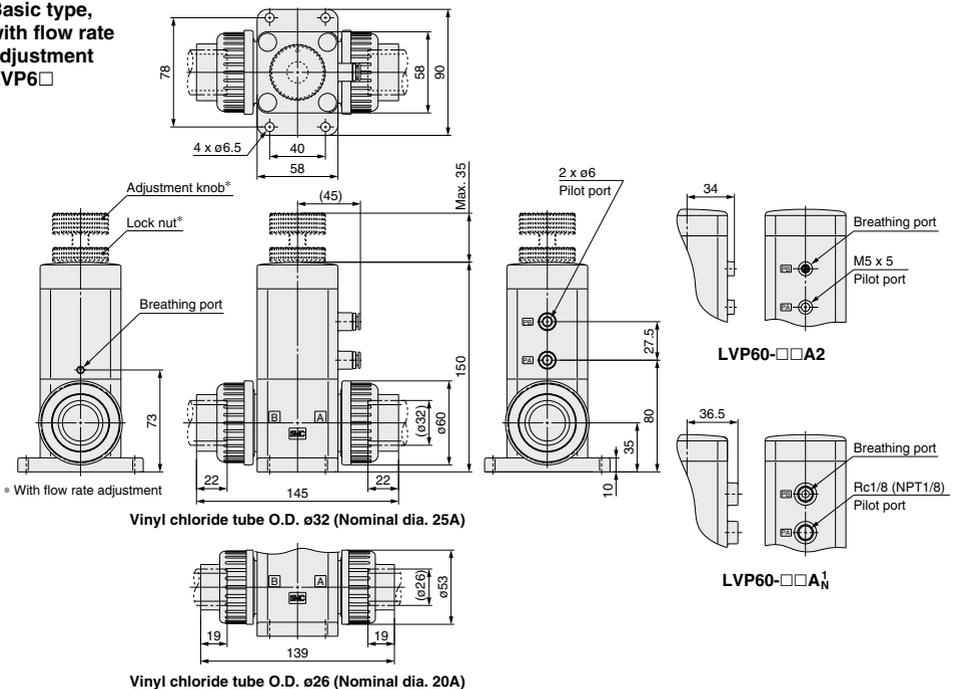
| No. | Description | Part no.        | Applicable model |
|-----|-------------|-----------------|------------------|
| 4   | Union Nut   | LVP50-31-16-X17 | LVP5□-16A□       |
|     |             | LVP60-31-20-X17 | LVP6□-20A□       |
|     |             | LVP60-31-25-X17 | LVP6□-25A□       |
| 5   | Union end   | LVP50-30-16-X17 | LVP5□-16A□       |
|     |             | LVP60-30-20-X17 | LVP6□-20A□       |
|     |             | LVP60-30-25-X17 | LVP6□-25A□       |

## Dimensions

**Basic type,  
with flow rate  
adjustment  
LVP5□**



**Basic type,  
with flow rate  
adjustment  
LVP6□**



|            |
|------------|
| LVC        |
| LVA        |
| LVH        |
| LVD        |
| LVQ        |
| <b>LVP</b> |
| LVW        |
| LQ1        |
| LQ3        |
| LVN        |
| LQHB       |
| TL         |
| TIL        |
| TLM        |
| TILM       |
| TD         |
| TID        |
| TH         |
| TIH        |



# LVP Series Applicable Fluids

## Material and Fluid Compatibility Check List for Vinyl Chloride Air Operated Valves

| Chemical   |   | Compatibility                    |
|--|---|----------------------------------|
| <b>Ammonium hydroxide</b>                          | Temperature 40°C or less                            | ○<br>Material option "N" Note 2) |
| <b>Isobutyl alcohol</b>                            | Temperature 40°C or less                            | ○ Note 1) Note 2)                |
| <b>Isopropyl alcohol</b>                           | Temperature 40°C or less                            | ○ Note 1) Note 2)                |
| <b>Hydrochloric acid</b>                           | Concentration 30% or less                           | ○ Note 2)                        |
| <b>Hydrogen peroxide</b>                           | Concentration 5% or less, Temperature 50°C or less  | ○                                |
| <b>Nitric acid (except fuming nitric acid)</b>     | Concentration 10% or less, Temperature 40°C or less | ○ Note 2)                        |
| <b>Deionized water</b>                             |   | ○                                |
| <b>Sodium hydroxide (Caustic soda)</b>             | Concentration 50% or less                           | ○                                |
| <b>Nitrogen gas</b>                                |   | ○                                |
| <b>Super pure water</b>                            |   | ○                                |
| <b>Sulfuric acid (except fuming sulfuric acid)</b> | Concentration 30% or less                           | ○ Note 2)                        |
| <b>Phosphoric acid</b>                             | Concentration 50% or less                           | ○                                |

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 caution as permeation may occur. The permeated fluid may effect the parts of other materials.

### Table symbols

- : Can be used
- : Can be used in certain conditions

- Compatibility is indicated for fluid temperatures of 60°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.



## LVP Series

# Specific Product Precautions

Be sure to read this before handling the products.  
Refer to back page 50 for Safety Instructions.

### Return of Product

#### **Warning**

If the product to be returned is contaminated or is possibly contaminated with substances that are harmful to humans, for safety reasons, please contact SMC beforehand and then employ a specialist cleaning company to decontaminate the product. After the decontamination prescribed above has been carried out, submit a Product Return Request Sheet or the Detoxification/Decontamination Certificate to SMC and await SMC's approval and further instructions before attempting to return the item.

Please refer to the International Chemical Safety Cards (ICSC) for a list of harmful substances.

If you have any further questions, please don't hesitate to contact your SMC sales representative.

LVC

LVA

LVH

LVD

LVQ

**LVP**

LVW

LQ1

LQ3

LVN

LQHB

TL

TIL

TLM

TILM

TD

TID

TH

TIH