

# Micro-Flow Control Valves Corrosion Resistant type

## Model VSP

### OVERVIEW

Model VSP valves employ high performance ceramics, which is highly resistant to corrosion, for their trims. This offers excellent control characteristics. Typical applications include fine control of injection lines of polyaluminum chloride, sodium hypochlorite, and other chemicals. The valves are compact and light, and easy to handle and require less installation space.

### SPECIFICATIONS

#### Body

**Type:** Angle valves, made of plastics, for control of very small flows

**Nominal size:** 10, 15, 20 mm

**Rating:** Max. operating pressure; 981 kPa {10 kgf/cm<sup>2</sup>}  
Operating temperature; 0 to 50°C

**Pressure rating:** JIS 5KFF (JIS B2211)  
JIS 10K RF/FF (JIS B2212-1972)

**End connection:** Flanged end; FF

**Material:** PVC (hard polyvinyl chloride)

**Gland type:** Double-seal screw gland

**Packing:** V-PTFE and fluoric O-ring (double seal structure), resistant to acid and other chemicals

**Gaskets:** Fluoric O-ring, resistant to acid and other chemicals

**Flow direction:** Bottom to side

#### Trims

##### Material of plug and seat

High performance ceramics (silicone carbide)

#### Actuator

**Type:** Multi-spring type diaphragm motor  
(Model VM12D or VM12R)

**Action:** Direct or reverse action

**Diaphragm:** Cloth-chloroprene rubber

**Spring range:** 20 to 98 kPa {0.2 to 1.0 kgf/cm<sup>2</sup>}

**Supply air pressure:** 140 kPa {1.4 kgf/cm<sup>2</sup>}

**Air connections:** Rc 1/4 internal thread

**Ambient temperature:** 0 to 60°C

#### Valve action:

Air-to-close (Direct-action actuator is combined)

Air-to-open (Reverse-action actuator is combined)

#### Positioner (model VPE)

**Input signal:** 20 to 98 kPa {0.2 to 1.0 kgf/cm<sup>2</sup>}

**Supply pressure:** 140 kPa {1.4 kgf/cm<sup>2</sup>}

**Air consumptions:** 9 ℓ/min(N)

**Maximum air flow:** 88 ℓ/min(N)

**Rated travel:** 10 mm



**Travel range adjustment:** 120 to 60% F.S.

#### Optional accessories

##### Pressure regulator with filter

Model KZ03-2A-A (with 40-mm dia. pressure gauge)

##### Solenoid valve

Water-proof or explosion-proof

*Note) For the optional items, refer to respective catalogs and installation drawings.*

#### Performance

**Rated Cv values:** 0.02, 0.05, 0.1, 0.16, 0.25, 0.4  
(The VSP valves employ a specific sizing system. Refer to products data sheet No. PD2-811-050.)

**Flow characteristic:** Linear

**Inherent rangeability:** 25 : 1

**Allowable differential pressure :** 981 kPa  
{10 kgf/cm<sup>2</sup>}

981 kPa {10 kgf/cm<sup>2</sup>}

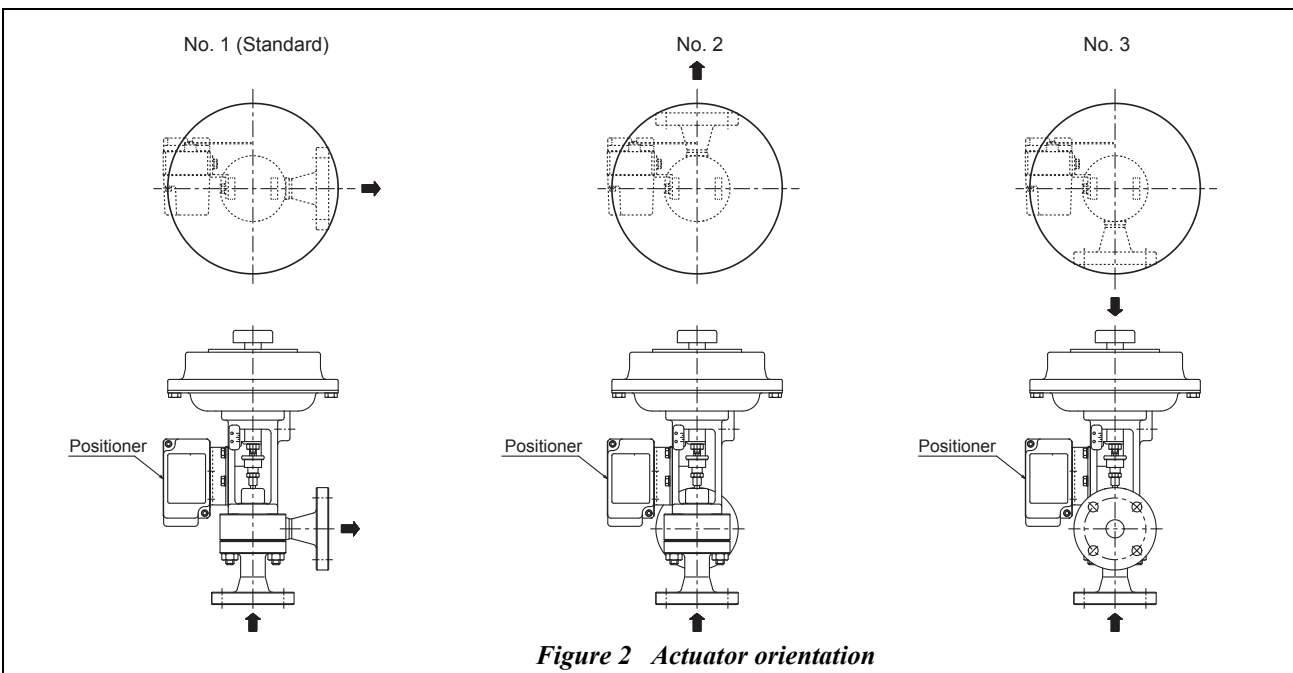
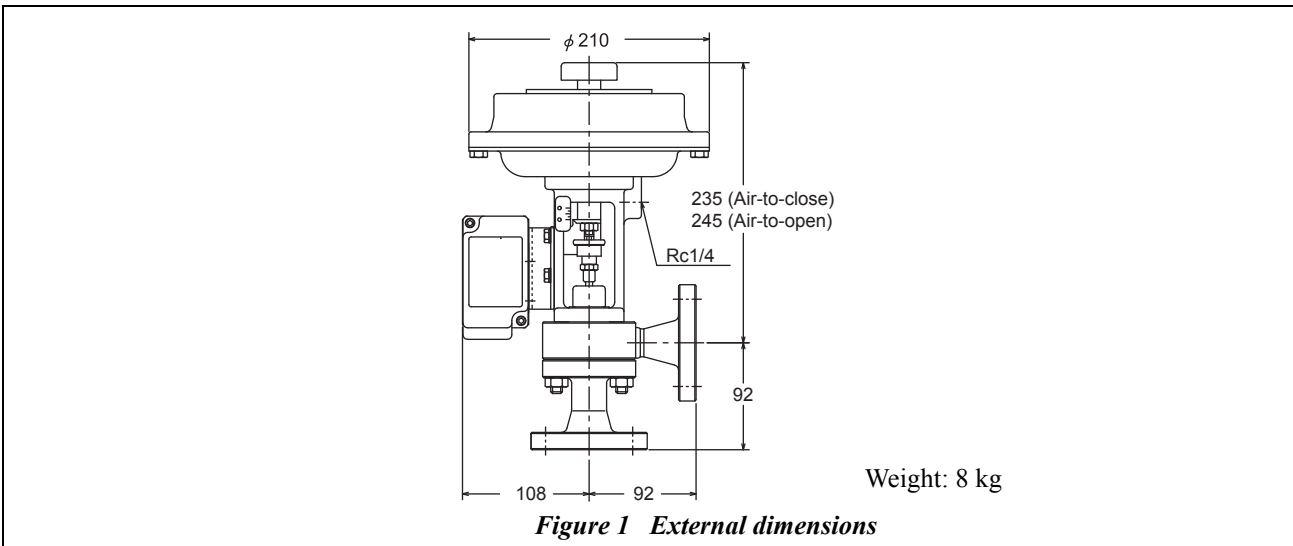
##### Leakage specification:

Leakage less than 0.01% of maximum valve capacity  
(Leak test: with clean water of normal temperature, at 240 kPa {2.5 kgf/cm<sup>2</sup>})

**Hysteresis error:** With positioner; within 1% F.S.

**Linearity:** With positioner; within ±3% F.S.

**Finish color:** Blue (Munsell 10B5/10) or silver, or other specified colors.



Note) Indicate by position number when installation other than the standard type is required.

**Ordering information**

When ordering, please specify;

- |  |   |
|--|---|
| 1) Model number: VSP                             | 7) Normal flow and maximum required flow  |
| 2) Connection size X Cv required                 | 8) Pressure of fluid, and differential pressure between upstream and downstream sides of valve (When valve is full open and fully closed) |
| 3) Connection standards                          | 9) Temperature, specific gravity and viscosity of fluid   |
| 4) Type of action (direct or reverse)            | 10) Pipe installation positions   |
| 5) Option (pressure regulator with filter, etc.) |   |
| 6) Type of fluid to be controlled                |   |

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<http://www.azbil.com/products/bi/order.html>

Specifications are subject to change without notice.



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