ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

**Artisan Technology Group**
(217) 352-9330 | sales@artisantg.com | artisantg.com

**Full-service, independent repair center**
with experienced engineers and technicians on staff.

**We buy your excess, underutilized, and idle equipment**
along with credit for buybacks and trade-ins.

**Custom engineering**
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

**Expert team | Trust guarantee | 100% satisfaction**

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *SMC VZ2150* at our website: ***Click HERE***

# 5 Port Solenoid Valve
# Body Ported
# *Series VZ3000*



## How to Order

Body ported **VZ3** [1] [2] [0] [5] [L] [ ] [ ] [M5] [ ]

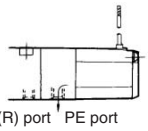
Type of actuation | Body option | Rated voltage | Electrical entry | Light/Surge voltage suppressor | Manual override | 4(A)/2(B) port size | Option

### Type of actuation

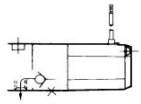
| | |
|---|---|
| 1 | 2 position single |
| 2 | 2 position double |
| 3 | 3 position closed center |
| 4 | 3 position exhaust center |
| 5 | 3 position pressure center |

### Body option

**0**: Individual exhaust for the pilot valve




**3**: Common exhaust type for main and pilot valve



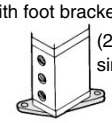

### Rated voltage

| | |
|---|---|
| 1 | 100 VAC, 50/60 Hz |
| 2 | 200 VAC, 50/60 Hz |
| 3* | 110 VAC, 50/60 Hz |
| 4* | 220 VAC, 50/60 Hz |
| 5* | 24 VDC |
| 6 | 12 VDC |
| 9* | Other |

* Option

### Option

**F**: With foot bracket (2 position single type only)



**U**: With silencer



**K**: With foot bracket and silencer (2 position single only)

Note) The bracket and silencer are not assembled.

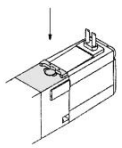
### 4(A), 2(B) port size

| | |
|---|---|
| M5 | M5 x 0.8 |
| C4 | One-touch fitting for ø4 |
| C6 | One-touch fitting for ø6 |

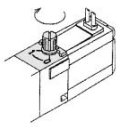
Note) 1(P), 5(R1), 3(R2) port: M5 x 0.8

### Manual override

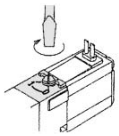
**Nil**: Non-locking push type



**C**: Locking type C (Manual)



**B**: Locking type B (Slotted)

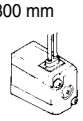
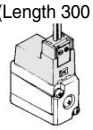
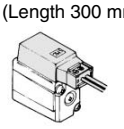
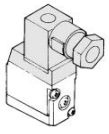
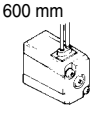
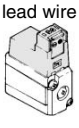
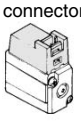
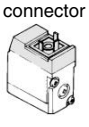


### Light/Surge voltage suppressor

| | |
|---|---|
| Nil | None |
| Z* | With light/surge voltage suppressor |
| S | With surge voltage suppressor |

* Not available for "GZ", "HZ" and "DOZ"

### Electrical entry

| Grommet | L plug connector | M plug connector | | DIN terminal |
|---|---|---|---|---|
| **G**: Lead wire length 300 mm  | **L**: With lead wire (Length 300 mm)  | **M**: With lead wire (Length 300 mm)  | **MN**: Without lead wire  | **D**: With connector  |
| **H**: Lead wire length 600 mm  | **LN**: Without lead wire  | **LO**: Without connector  | **MO**: Without connector  | **DO**: Without connector  |

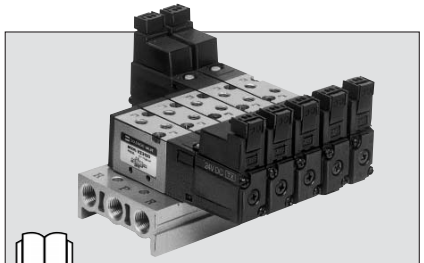
* Type "LN", "MN": With 2 sockets.

**Applicable for cylinder actuation (up to ø40).**

**Compact size (Width: 15 mm)**

**Low power consumption: 1.8 W DC**





Refer to pages 3-3-24 to 3-3-27 for manifold use.

**Made to Order Specifications (For details, refer to page 3-3-85.)**

## Specifications

| | | |
|---|---|---|
| Fluid | | Air |
| Operating pressure range (MPa) | 2 position single | 0.15 to 0.7 |
| | 2 position double | 0.1 to 0.7 |
| | 3 position | 0.15 to 0.7 |
| Ambient and fluid temperature (°C) | | –10 to 50°C (No freezing. Refer to page 3-13-4.) |
| Response time (ms) (1) (at the pressure of 0.5 MPa) | 2 position single, double | 20 or less |
| | 3 position | 35 or less |
| Max. operating frequency (Hz) | 2 position single, double | 10 |
| | 3 position | 3 |
| Effective area | | Refer to the table below. |
| Manual override (2) | | Non-locking push type, Locking slotted type, Locking lever type |
| Pilot exhaust method | | Individual pilot exhaust type, Common exhaust (pilot and main valve) type |
| Lubrication | | Not required |
| Mounting orientation | | Unrestricted |
| Impact/Vibration resistance (m/s$^2$) (3) | | 300/50 |
| Enclosure | | Dustproof |

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)
Note 2) When operating the locking type manually, apply torque of 0.2 N·m or less.
Note 3) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

## Solenoid Specifications

∗ Option

| | | | |
|---|---|---|---|
| Electrical entry | | | Grommet (G)/(H), L plug connector (L), M plug connector (M), DIN terminal (D) |
| Coil rated voltage (V) | AC 50/60 Hz | | 100, 200, 24*, 48*, 110*, 220* |
| | DC | | 24, 6*, 12*, 48* |
| Allowable voltage fluctuation (%) | | | –15 to +10% of rated voltage |
| Power consumption (W) Note) [Current mA] | DC | | 1.8 (With indicator light 2.1) [24 VDC: 75 (With indicator light 87.5)] |
| Apparent power (VA) Note) [Current mA] | AC | Inrush | 4.5/50 Hz, 4.2/60 Hz [100 VAC: 45/50 Hz, 42/60 Hz; 200 VAC: 22.5/50 Hz, 21/60 Hz] |
| | | Holding | 3.5/50 Hz, 3/60 Hz [100 VAC: 35/50 Hz, 30/60 Hz; 200 VAC: 17.5/50 Hz, 15/60 Hz] |
| Surge voltage suppressor | | | DC: Diode, AC: ZNR |
| Indicator light | | | DC: LED (Red), AC: Neon bulb |

Note) At rated voltage

## Option

| Description | Part no. | Note |
|---|---|---|
| With foot bracket | DXT170-34-1B | For VZ312$^{0}_{3}$ |
| Silencer | AN120-M5 | Noise reduction: 21dB or more (ø8 x 17 mm) |

## Flow Characteristics/Weight

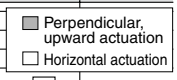
| Valve model | Type of actuation | | Port size 1, 5, 3 (P, EA, EB) | Port size 4, 2 (A, B) | Flow characteristics Note) 1 → 4/2 (P → A/B) C [dm³/(s·bar)] | b | Cv | 4/2 → 5/3 (A/B → EA/EB) C [dm³/(s·bar)] | b | Cv | Weight (g) Grommet |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VZ3□20-□-M5 | 2 position | Single | M5 x 0.8 | M5 x 0.8 | 0.47 | 0.41 | 0.13 | 0.47 | 0.41 | 0.13 | 75 |
| | | Double | | | | | | | | | 120 |
| | 3 position | Closed center | | | 0.49 | 0.44 | 0.13 | 0.44 | 0.40 | 0.12 | 130 |
| | | Exhaust center | | | 0.46 | 0.37 | 0.12 | 0.47 [0.39] | 0.43 [0.35] | 0.13 [0.10] | |
| | | Pressure center | | | 0.49 [0.39] | 0.51 [0.38] | 0.14 [0.10] | 0.45 | 0.42 | 0.12 | |
| VZ3□20-□-C4 | 2 position | Single | M5 x 0.8 | C4 (One-touch fitting for ø4) | 0.69 | 0.39 | 0.18 | 0.44 | 0.39 | 0.12 | 75 |
| | | Double | | | | | | | | | 120 |
| | 3 position | Closed center | | | 0.69 | 0.40 | 0.19 | 0.43 | 0.40 | 0.12 | 130 |
| | | Exhaust center | | | 0.56 | 0.40 | 0.15 | 0.41 [0.41] | 0.37 [0.37] | 0.10 [0.11] | |
| | | Pressure center | | | 0.57[0.41] | 0.4 [0.37] | 0.15 [0.10] | 0.41 | 0.37 | 0.10 | |
| VZ3□20-□-C6 | 2 position | Single | M5 x 0.8 | C6 (One-touch fitting for ø6) | 0.70 | 0.36 | 0.19 | 0.47 | 0.40 | 0.12 | 75 |
| | | Double | | | | | | | | | 120 |
| | 3 position | Closed center | | | 0.72 | 0.37 | 0.19 | 0.44 | 0.34 | 0.12 | 130 |
| | | Exhaust center | | | 0.67 | 0.54 | 0.19 | 0.41 [0.41] | 0.38 [0.38] | 0.11 [0.11] | |
| | | Pressure center | | | 0.82 [0.44] | 0.41 [0.39] | 0.23 [0.12] | 0.41 | 0.36 | 0.11 | |

Note) [ ]: Denotes the normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2

## Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC Sizing Program.

| Series | Average speed (mm/s) | Bore size: Series CJ2, Pressure 0.5 MPa, Load factor 50%, Stroke 60 mm | | | Series CM2, Pressure 0.5 MPa, Load factor 50%, Stroke 300 mm | | | |
|---|---|---|---|---|---|---|---|---|
| | | ø6 | ø10 | ø16 | ø20 | ø25 | ø32 | ø40 |
| VZ3120-M5 | 800 | | | | | | | |
| | 700 | | | | | | | |
| | 600 | | | | | | | |
| | 500 | | | | | | | |
| | 400 | | | | | | | |
| | 300 | | | | | | | |
| | 200 | | | | | | | |
| | 100 | | | | | | | |
| | 0 | | | | | | | |



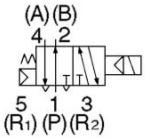

∗ It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
∗ The average velocity of the cylinder is what the stroke is divided by the total stroke time.
∗ Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

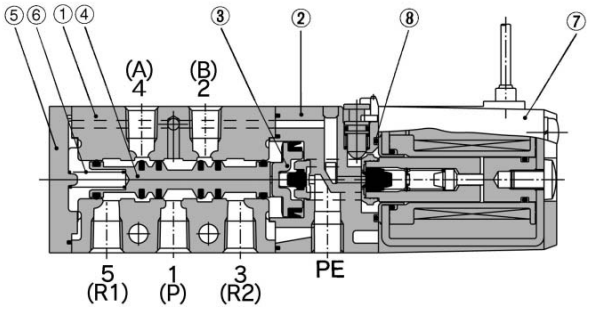
## Conditions

| Body ported | | Series CJ2 | Series CM2 | Series MB |
|---|---|---|---|---|
| SZ3120-M5 | Tube bore x Length | ø4 x 1 m | ø6 x 1 m | ø8 x 1 m |
| | Speed controller | AS1301F-04 | AS3301F-06 | AS3301F-08 |
| | Silencer | AN120-M5 | AN110-01 | |

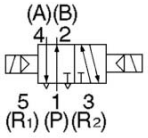
## Construction

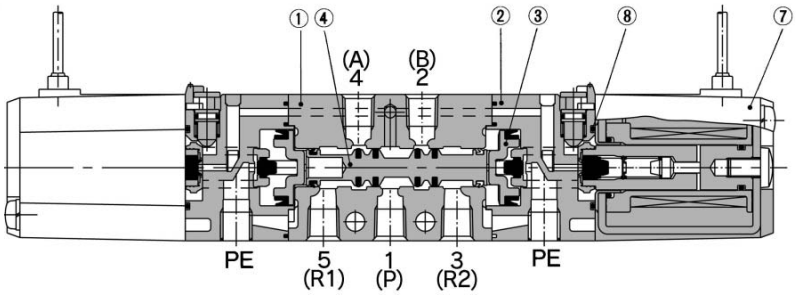
**2 position single**



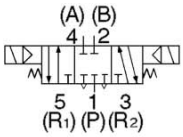




**2 position double**

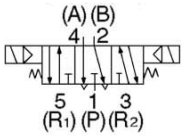


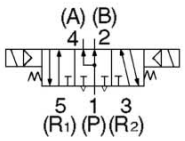

3 position closed center



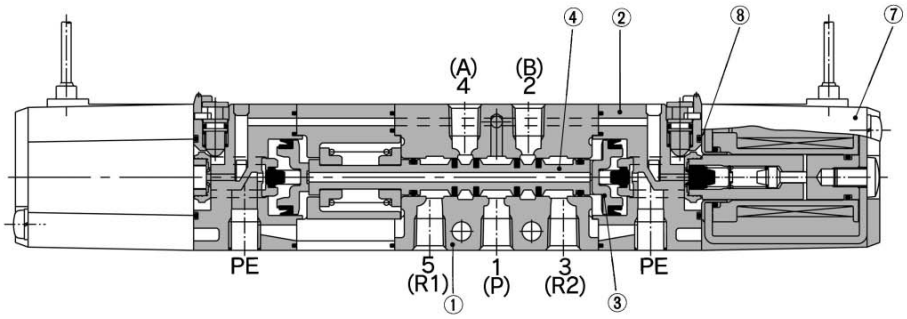

3 position exhaust center




3 position pressure center




**3 position closed center/exhaust center/pressure center**




(This figure shows a closed center type.)

### Component Parts

| No. | Description | Material | Note |
|---|---|---|---|
| ① | Body | Aluminum die-casted | Platinum silver |
| ② | Piston plate | Resin | Black |
| ③ | Piston | Resin | |
| ④ | Spool valve | Aluminum, HNBR | |
| ⑤ | End cover | Resin | |
| ⑥ | Spool spring | Stainless steel | |

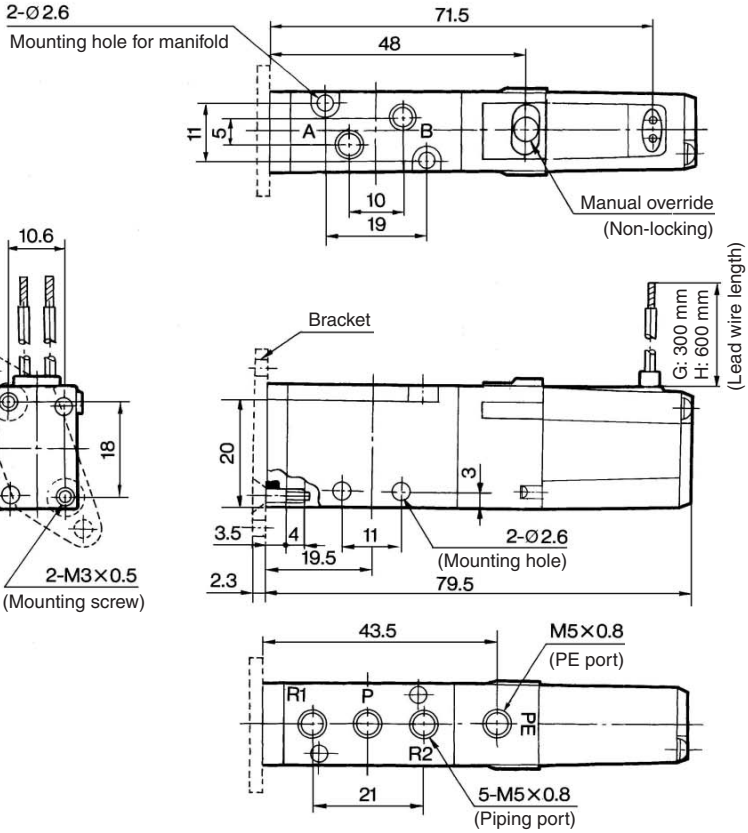
### Replacement Parts

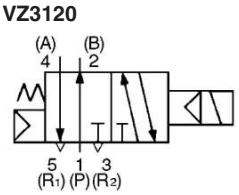
| No. | Description | Material | Part no. | Note |
|---|---|---|---|---|
| ⑦ | Solenoid assembly | Epoxy/Stainless steel | DXT170-C-□□□ | |
| ⑧ | O-ring | NBR | 13 x 11 x 1 | Common with Series VZ$\frac{1}{5}$000 |



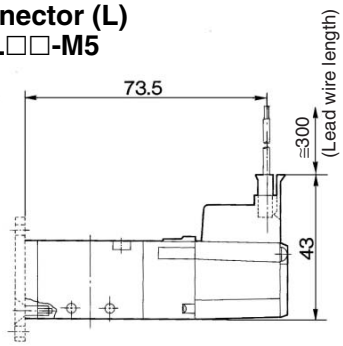
## 2 Position Single

**Grommet (G), (H)**
**VZ3120-□$^{G}_{H}$□□-M5**

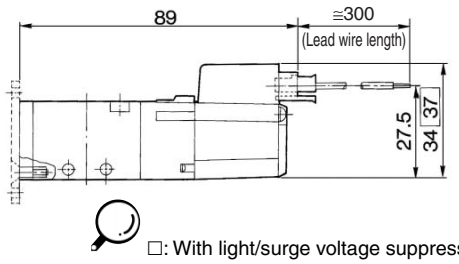



**L plug connector (L)**
**VZ3120-□L□□-M5**

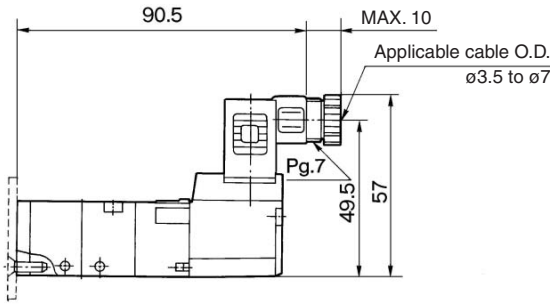



**M plug connector (M)**
**VZ3120-□M□□-M5**

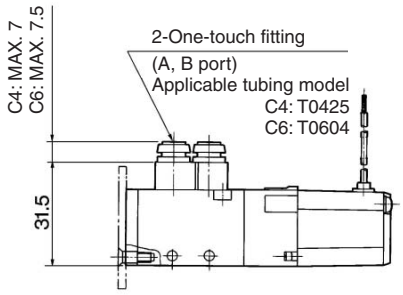



□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3120-□D□□-M5**




**Built-in One-touch fittings**
**VZ3120-□□□□-$^{C4}_{C6}$**

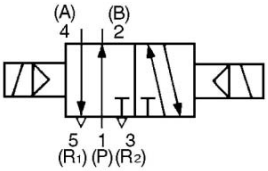




## 2 Position Double

**Grommet (G), (H)**
**VZ3220-□$^{G}_{H}$□□-M5**

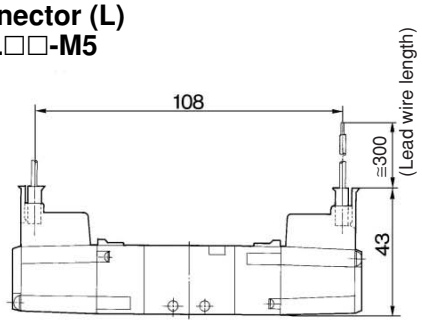
**VZ3220**



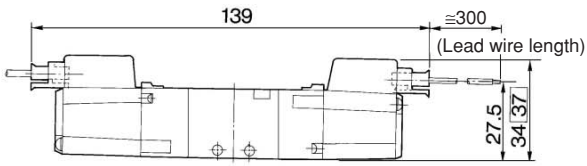




**L plug connector (L)**
**VZ3220-□L□□-M5**



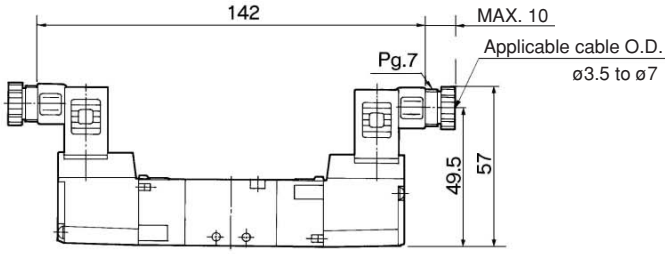

**M plug connector (M)**
**VZ3220-□M□□-M5**



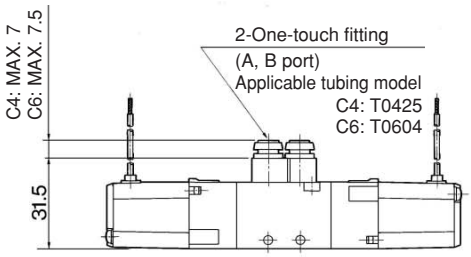



□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3220-□D□□-M5**



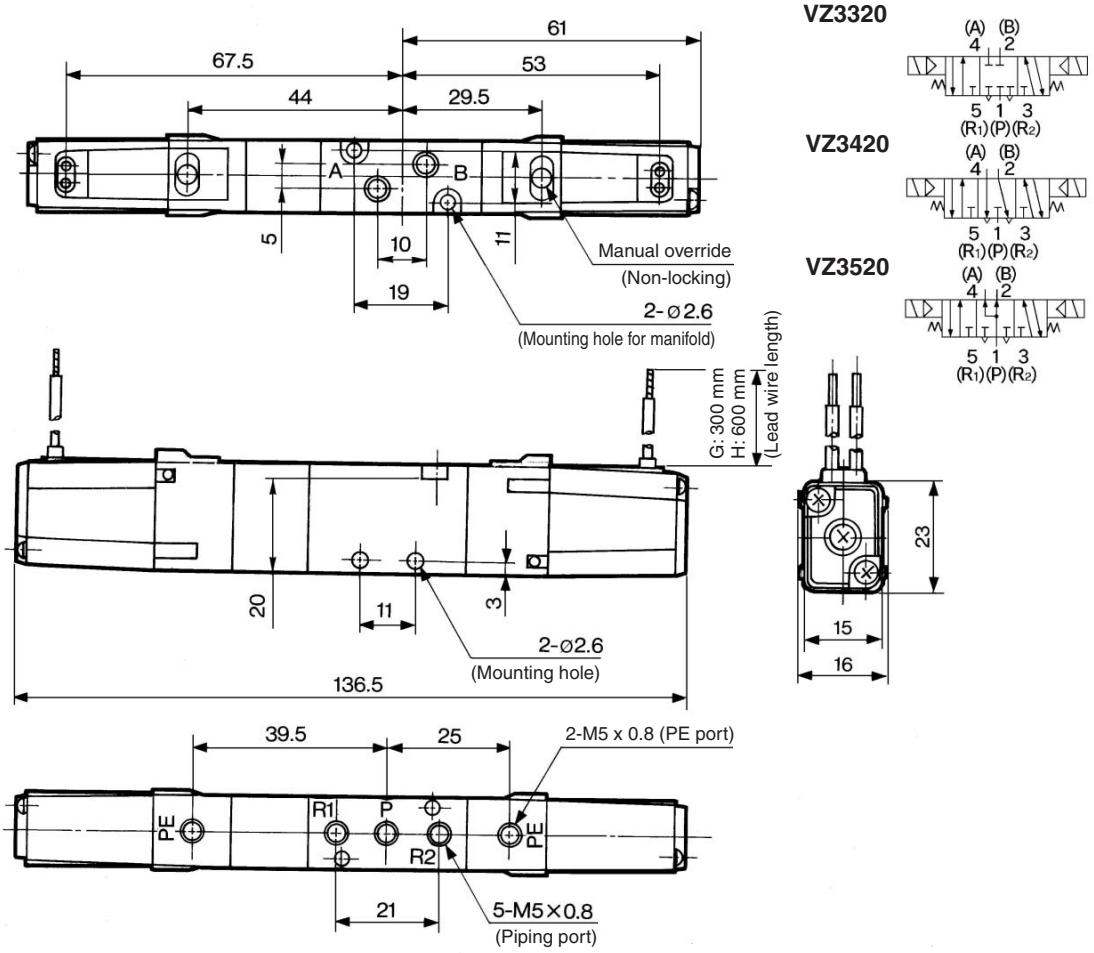

**Built-in One-touch fittings**
**VZ3220-□□□□-$^{C4}_{C6}$**



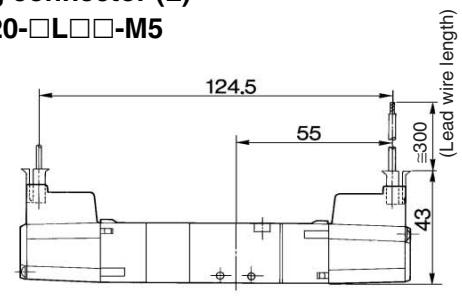


## 3 Position Closed Center/Exhaust Center/Pressure Center

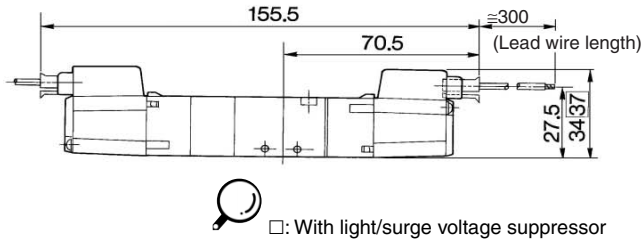
**Grommet (G), (H)**
**VZ3$^{3}_{5}$20-□$^{G}_{H}$□□-M5**




**L plug connector (L)**
**VZ3$^{3}_{5}$20-□L□□-M5**

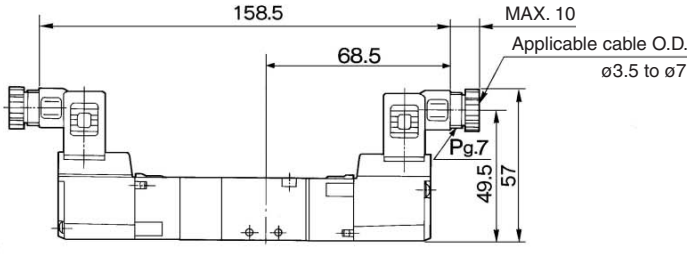



**M plug connector (M)**
**VZ3$^{3}_{5}$20-□M□□-M5**

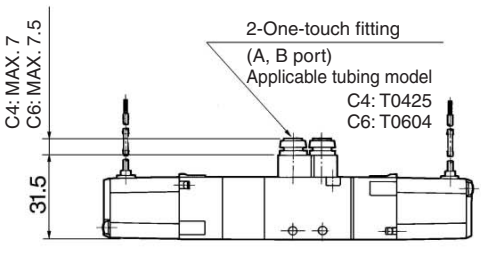



□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3$^{3}_{5}$20-□D□□-M5**




**Built-in One-touch fittings**
**VZ3$^{3}_{5}$20-□□□□-$^{C4}_{C6}$**



# 5 Port Solenoid Valve
# Base Mounted
# *Series VZ3000*

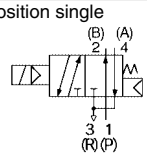
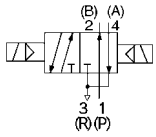
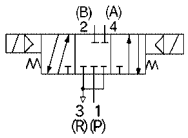
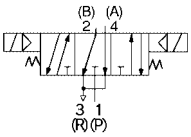
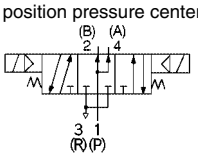


## How to Order

Note) Please contact SMC in the case of without indicator light.

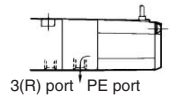
| | | Type of actuation | Body option | Rated voltage | Electrical entry | Light/Surge voltage suppressor | Manual override | Port size | Thread type |
|---|---|---|---|---|---|---|---|---|---|
| Plug-in | VZ3 | 1 | 4 3 | 5 | F | Z Note) | | | |
| Non plug-in | VZ3 | 1 | 4 0 | 5 | L | | | | |

### Type of actuation

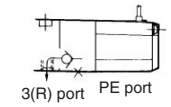
| | | |
|---|---|---|
| 1 | 2 position single |  |
| 2 | 2 position double |  |
| 3 | 3 position closed center |  |
| 4 | 3 position exhaust center |  |
| 5 | 3 position pressure center |  |

### Body option

**0**: Individual exhaust for the pilot valve




**3**: Common exhaust type for main and pilot valve

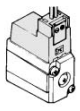
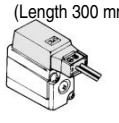
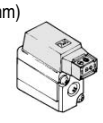
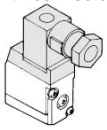
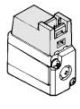
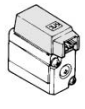



### Rated voltage

| | |
|---|---|
| 1 | 100 VAC, 50/60 Hz |
| 2 | 200 VAC, 50/60 Hz |
| 3* | 110 VAC, 50/60 Hz |
| 4* | 220 VAC, 50/60 Hz |
| 5* | 24 VDC |
| 6 | 12 VDC |
| 9* | Other |

* Option

### Electrical entry

| Grommet | L plug connector | M plug connector | | DIN terminal |
|---|---|---|---|---|
| **G**: Lead wire length 300 mm | **L**: With lead wire (Length 300 mm) | **M**: With lead wire (Length 300 mm) | **MN**: Without lead wire | **D**: With connector |
|  |  |  |  |  |
| **H**: Lead wire length 600 mm | **LN**: Without lead wire | **LO**: Without connector | **MO**: Without connector | **DO**: Without connector |
|  |  |  |  |  |

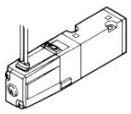
* Type "LN", "MN": With 2 sockets.

### Thread type

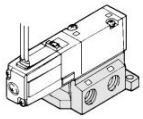
| | |
|---|---|
| Nil | Rc |
| F | G |
| N | NPT |
| T | NPTF |

### Port size

**Nil**: Without sub-plate

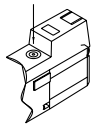


**01**: Rc 1/8 With sub-plate

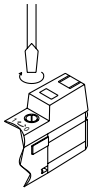


### Manual override/Plug-in type

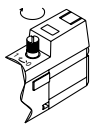
**Nil**: Non-locking push type



**B**: Locking type B (Slotted)



**C**: Locking type C (Manual)

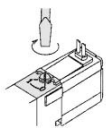


### Manual override/Non plug-in type

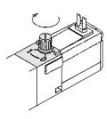
**Nil**: Non-locking push type



**B**: Locking type B (Slotted)



**C**: Locking type C (Manual)



### Light/Surge voltage suppressor

| | |
|---|---|
| Nil | None |
| Z* | With light/surge voltage suppressor |
| S | With surge voltage suppressor |

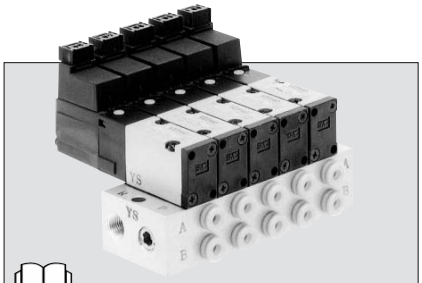
* Not available for "GZ", "HZ" and "DOZ"

**Applicable for cylinder actuation (up to ø40).**

**Compact size (Width: 15 mm)**

**Low power consumption: 1.8 W DC**





Refer to pages 3-3-37 to 3-3-52 for manifold use.

Made to Order **Made to Order Specifications (For details, refer to page 3-3-85.)**

## Specifications

| | | |
|---|---|---|
| Fluid | | Air |
| Operating pressure range (MPa) | 2 position single | 0.15 to 0.7 |
| | 2 position double | 0.1 to 0.7 |
| | 3 position | 0.15 to 0.7 |
| Ambient and fluid temperature (°C) | | –10 to 50°C (No freezing. Refer to page 3-13-4.) |
| Response time (ms) (1) (at the pressure of 0.5 MPa) | 2 position single, double | 20 or less |
| | 3 position | 35 or less |
| Max. operating frequency (Hz) | 2 position single, double | 10 |
| | 3 position | 3 |
| Manual override (2) | | Non-locking push type, Locking slotted type, Locking lever type |
| Pilot exhaust method | | Individual pilot exhaust type, Common exhaust (pilot and main valve) type |
| Lubrication | | Not required |
| Mounting orientation | | Unrestricted |
| Impact/Vibration resistance ($m/s^2$) (3) | | 300/50 |
| Enclosure | | Dustproof |

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)
Note 2) When operating the locking type manually, apply torque of 0.2 N·m or less.
Note 3) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

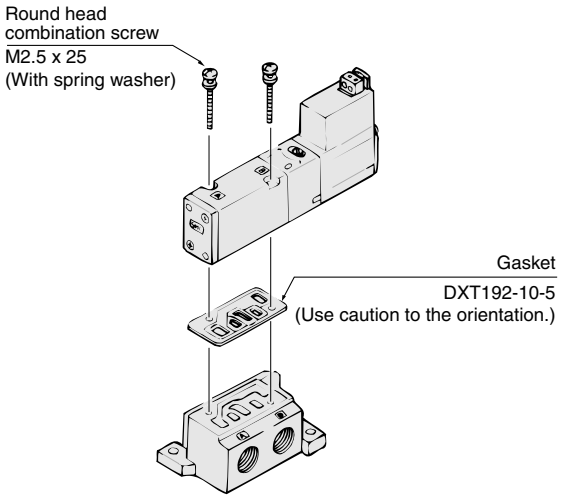
## Solenoid Specifications

∗ Option

| | | | |
|---|---|---|---|
| Electrical entry | | | Grommet (G)/(H), L plug connector (L), M plug connector (M), DIN terminal (D) |
| Coil rated voltage (V) | AC 50/60 Hz | | 100, 200, 24∗, 48∗, 110∗, 220∗ |
| | DC | | 24, 6∗, 12∗, 48∗ |
| Allowable voltage fluctuation (%) | | | –15 to +10% of rated voltage |
| Power consumption (W) (1) [Current mA] | DC | | 1.8 (With indicator light 2.1) [24 VDC: 75 (With indicator light 87.5)] |
| Apparent power (VA) (1) [Current mA] Note) | AC | Inrush | 4.5/50 Hz, 4.2/60 Hz [100 VAC: 45/50 Hz, 42/60 Hz; 200 VAC: 22.5/50 Hz, 15/60 Hz] |
| | | Holding | 3.5/50 Hz, 3/60 Hz [100 VAC: 35/50 Hz, 30/60 Hz; 200 VAC: 17.5/50 Hz, 15/60 Hz] |
| Surge voltage suppressor | | | DC: Diode, AC: ZNR (2) |
| Indicator light | | | DC: LED (Red), AC: Neon bulb |

Note 1) At rated voltage
Note 2) Plug-in should be ZNR.

## Combinations of Solenoid Valve and Gasket



## Flow Characteristics/Weight

| Valve model | Type of actuation | | Port size 1, 5, 3 (P, EA, EB) | Port size 4, 2 (A, B) | Flow characteristics (1) 1 → 4/2 (P → A /B) C [dm³/(s·bar)] | b | Cv | 4/2 → 5/3 (A/B → EA/EB) C [dm³/(s·bar)] | b | Cv | Weight (g) Grommet |
|---|---|---|---|---|---|---|---|---|---|---|---|
| VZ3□40-□-01 | 2 position | Single | Rc 1/8 | Rc 1/8 | 0.79 | 0.21 | 0.19 | 0.83 | 0.32 | 0.21 | 125 (75) |
| | | Double | | | | | | | | | 170 (120) |
| | 3 position | Closed center | | | 0.80 | 0.28 | 0.18 | 0.86 | 0.34 | 0.20 | 180 (130) |
| | | Exhaust center | | | 0.71 | 0.26 | 0.18 | 1.1 [0.60] | 0.24 [0.44] | 0.26 [0.18] | |
| | | Pressure center | | | 0.99 [0.47] | 0.29 [0.38] | 0.24 [0.12] | 0.72 | 0.38 | 0.18 | |

Note 1) [ ]: Denotes the normal position. Exhaust center: 4/2 → 5/3, Pressure center: 1 → 4/2
Note 2) ( ): Without sub-plate.

## Cylinder Speed Chart

Use as a guide for selection.
Please confirm the actual conditions with SMC Sizing Program.

| Series | Average speed (mm/s) | Bore size: Series CM2, Pressure 0.5 MPa, Load factor 50%, Stroke 300 mm | ø20 | ø25 | ø32 | ø40 |
|---|---|---|---|---|---|---|
| VZ314□-□□□□-01□ (Piping: ø4 x 1 m) | 800 / 700 / 600 / 500 / 400 / 300 / 200 / 100 | Perpendicular, upward actuation / Horizontal actuation | | | | |
| Speed controller/Silencer | | | AS2301F-□01-04□/AN110-01 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| VZ314□-□□□□-01□ (Piping: ø6 x 1 m) | 800 / 700 / 600 / 500 / 400 / 300 / 200 / 100 | Perpendicular, upward actuation / Horizontal actuation | | | | |
| Speed controller/Silencer | | | AS3301F-□02-06□/AN110-01 | | | |

| Series | Average speed (mm/s) | Bore size: Series CA1, Pressure 0.5 MPa, Load factor 50%, Stroke 400 mm | ø40 | ø50 | ø63 | ø80 | ø100 |
|---|---|---|---|---|---|---|---|
| VZ314□-□□□□-01□ (Piping: ø6 x 1 m) | 800 / 700 / 600 / 500 / 400 / 300 / 200 / 100 | Perpendicular, upward actuation / Horizontal actuation | | | | | |
| Speed controller/Silencer | | | AS3301F-□02-06□/AN110-01 | | | | |

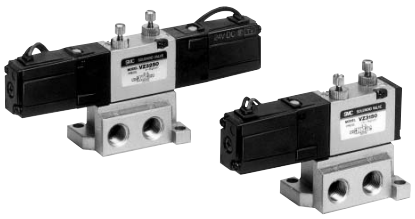
| | | | | | | |
|---|---|---|---|---|---|---|
| VZ314□-□□□□-01□ (Piping:ø8 x 1 m) | 800 / 700 / 600 / 500 / 400 / 300 / 200 / 100 | Perpendicular, upward actuation / Horizontal actuation | | | | |
| Speed controller/Silencer | | | AS3301F-□02-08□/AN110-01 | | | |

∗ It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.
∗ The average velocity of the cylinder is what the stroke is divided by the total stroke time.
∗ Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

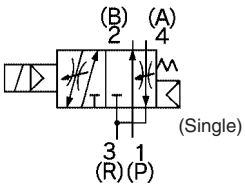
## Built-in Speed Controllers

### VZ3□5□

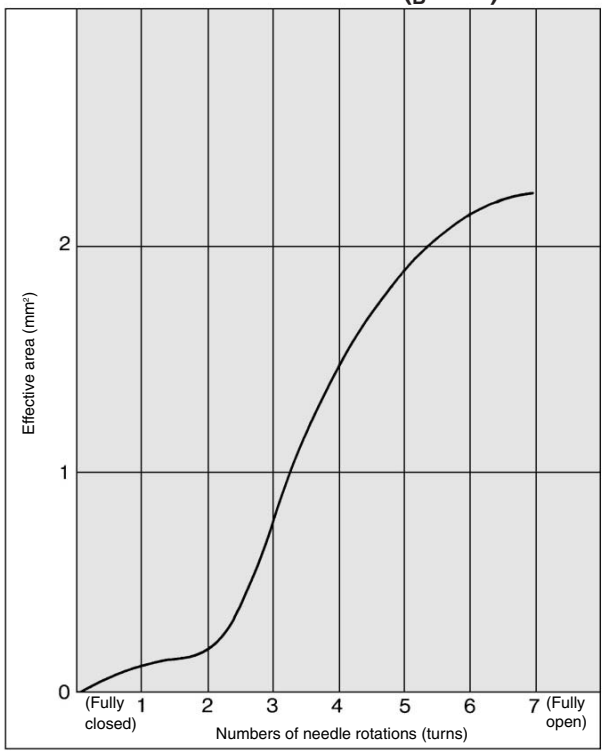
- An exhaust throttle valve is built into the solenoid valve itself, enabling a simple speed adjustment of the cylinder.
- If it is mounted on a manifold base, the exhaust air will converge in the common EXH port at the manifold base, thus simplifying the handling of the exhaust air.



**JIS Symbol**




### Throttle Valve Characteristics ($\frac{A}{B}$ → R)




Note) • To use the VZ3□53, open the throttle valve one turn or more from the fully closed position.
• To adjust the throttle valve apply torque of 0.3 N·m or less.
• Be careful not to open the throttle valve excessively as this could cause the throttle valve to fly out.

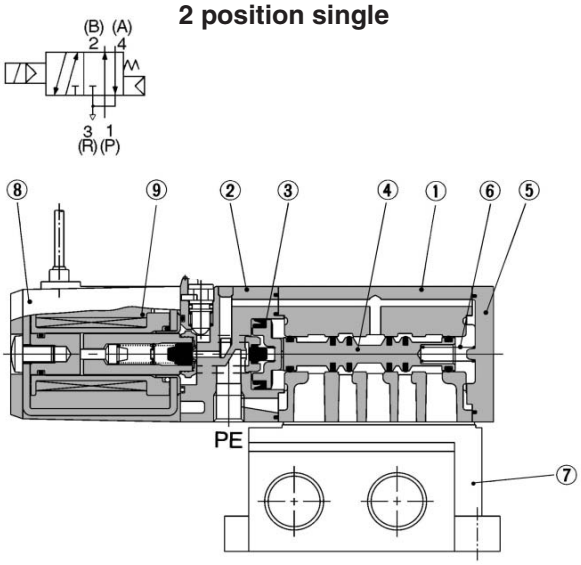
### How to Order Valve with Built-in Speed Controller

Non plug-in **VZ3 □ 5 □ □ □ □ □ □**

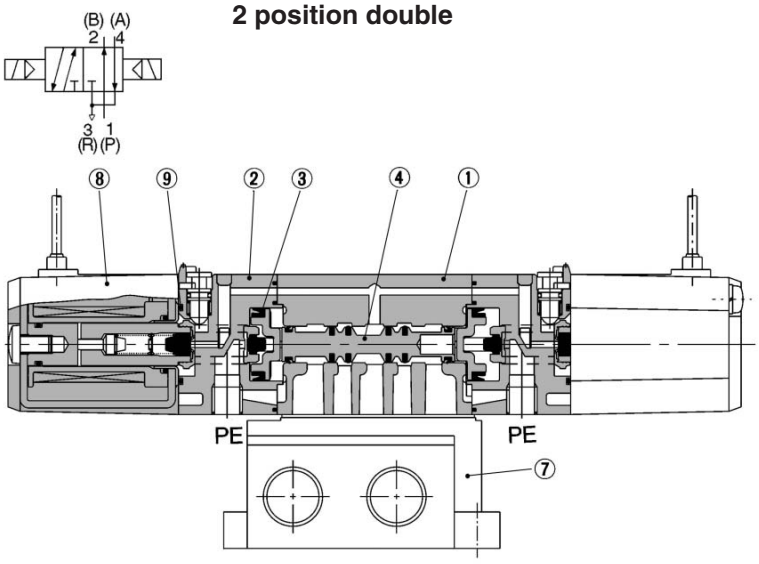
- Type of actuation
- Body option
- Rated voltage
- Electrical entry
- Light/Surge voltage suppressor
- Manual override
- Port size
- Thread type

## Construction

**2 position single**

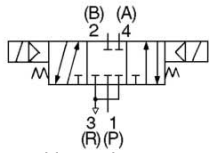



**2 position double**

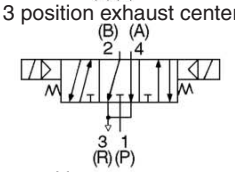



**3 position closed center/exhaust center/pressure center**

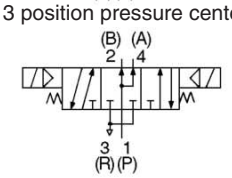
3 position closed center

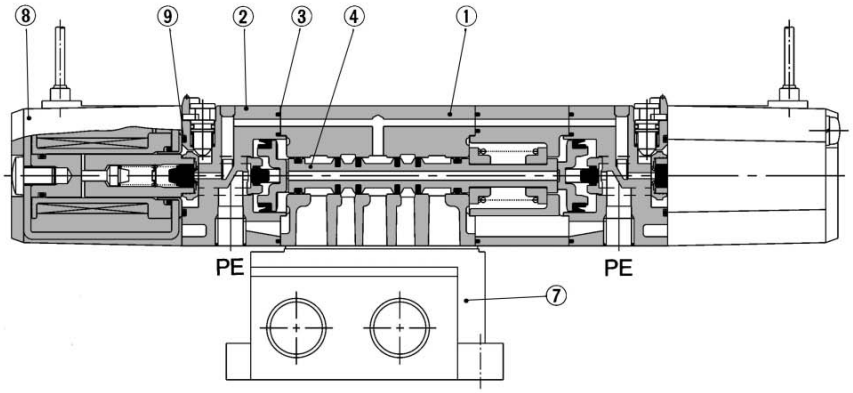



3 position exhaust center




3 position pressure center




(This figure shows a closed center type.)

### Component Parts

| No. | Description | Material | Note |
|---|---|---|---|
| ① | Body | Aluminum die-casted | Platinum silver |
| ② | Piston plate | Resin | Black |
| ③ | Piston | Resin | |
| ④ | Spool valve | Aluminum, HNBR | |
| ⑤ | End cover | Resin | |
| ⑥ | Spool spring | Stainless steel | |

### Replacement Parts

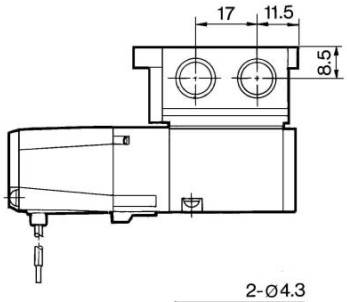
| No. | Description | Material | Part no. | Note |
|---|---|---|---|---|
| ⑦ | Sub-plate | Aluminum die-casted | DXT192-14-1∗P | Platinum silver |
| ⑧ | Solenoid assembly | Epoxy/Stainless steel | DXT170-C-□□□ | |
| ⑨ | O-ring | NBR | 13 x 11 x 1 | Common with Series VZ$\frac{1}{5}$000 |

∗ Thread type
Nil: Rc
F: G
N: NPT
T: NPTF

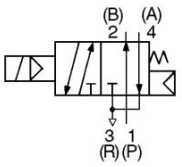


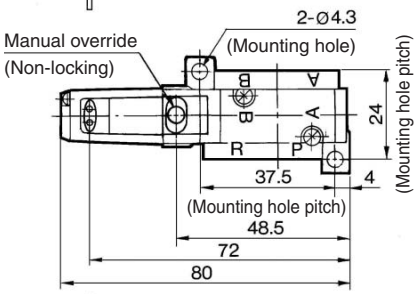
## 2 Position Single

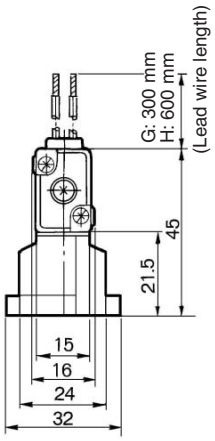
**Grommet (G), (H)**
**VZ3140-□ G H □□-01**

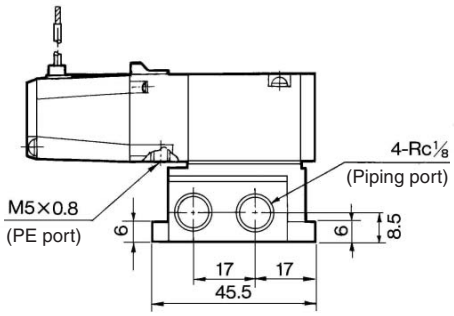



**VZ3140**

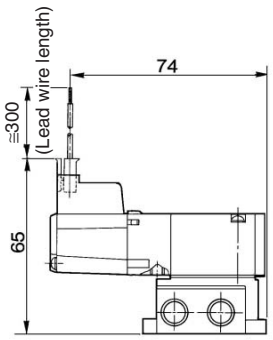


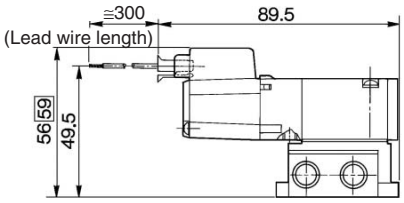




**L plug connector (L)**
**VZ3140-□L□□-01**

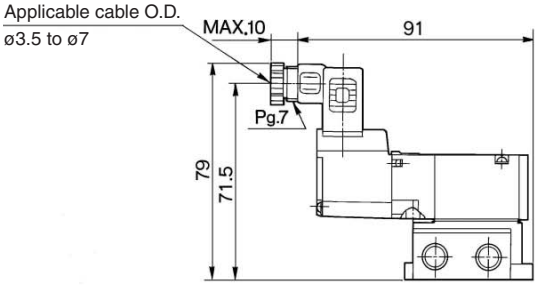



**M plug connector (M)**
**VZ3140-□M□□-01**

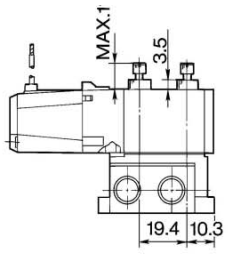


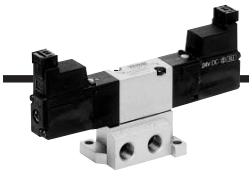

□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3140-□D□□-01**



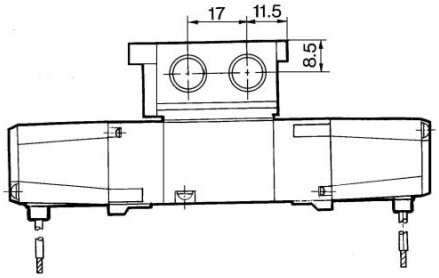

**Built-in speed controllers**
**VZ3150-□□□□**

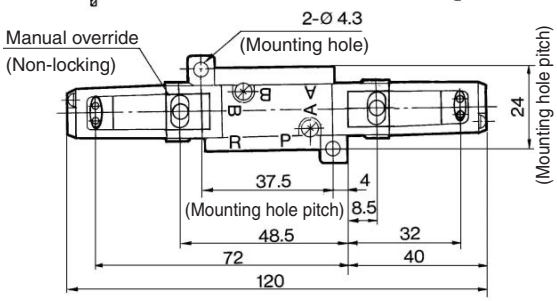


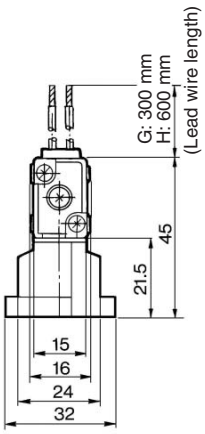


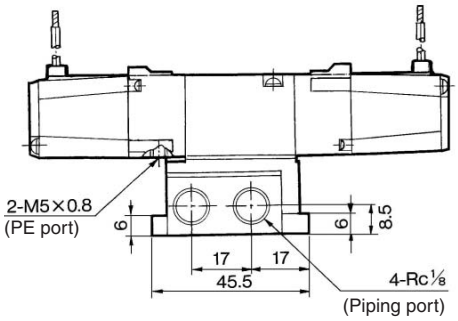
## 2 Position Double

**Grommet (G), (H)**
**VZ3240-□$^{G}_{H}$□□-01**

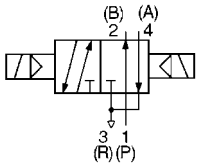




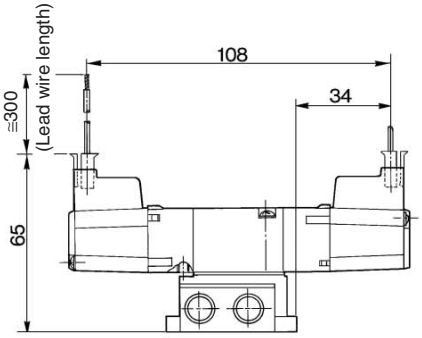




**VZ3240**

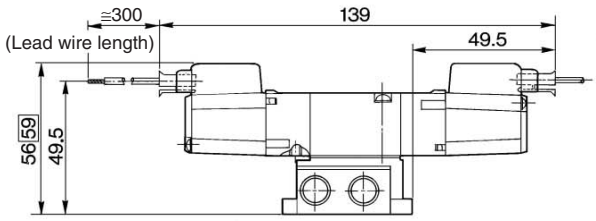





**L plug connector (L)**
**VZ3240-□L□□-01**

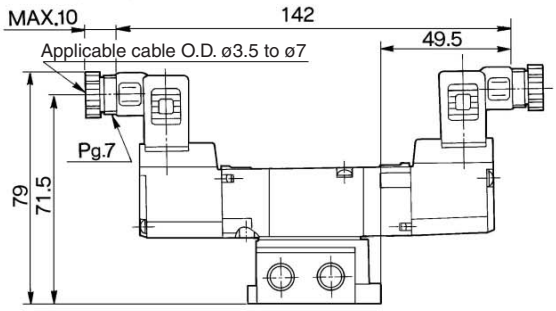



**M plug connector (M)**
**VZ3240-□M□□-01**

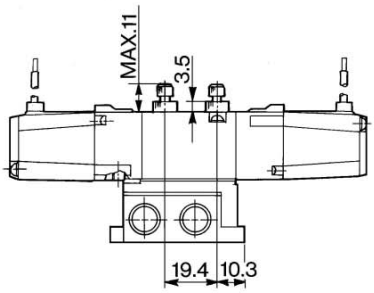



□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3240-□D□□-01**



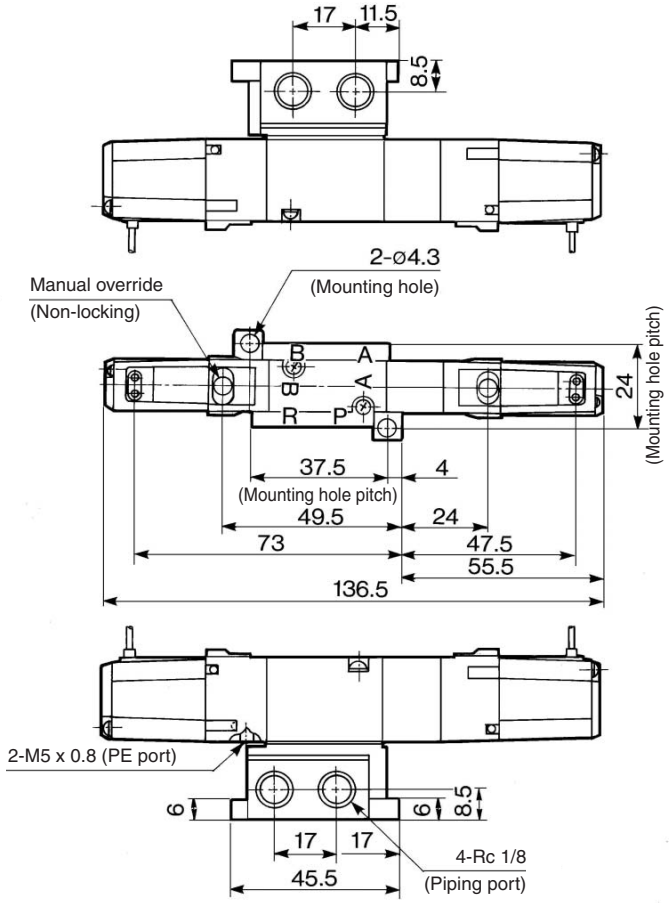

**Built-in speed controllers**
**VZ3250-□□□□**

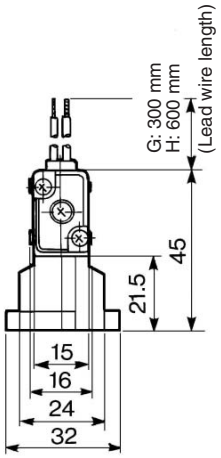




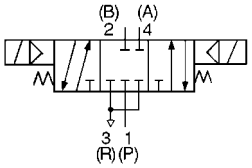
## 3 Position Closed Center/Exhaust Center/Pressure Center

**Grommet (G), (H)**
**VZ3$^{3}_{5}$20-□$^{G}_{H}$□□-01**

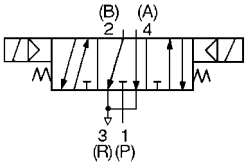


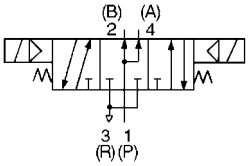

**VZ3340**



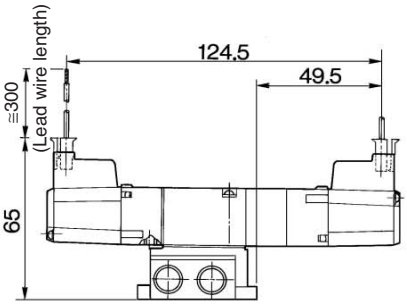

**VZ3440**



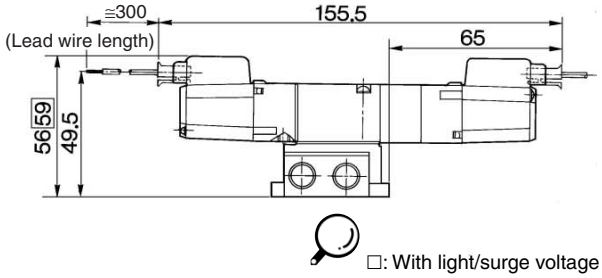

**VZ3540**




**L plug connector (L)**
**VZ3$^{3}_{5}$40-□L□□-01**

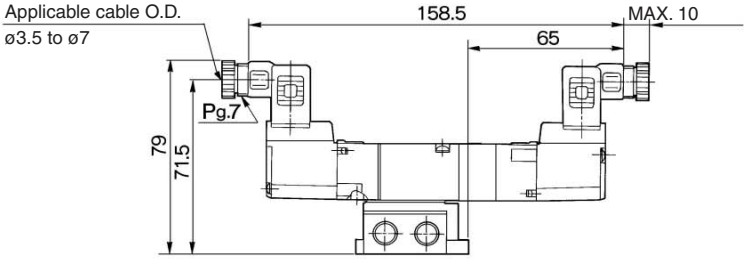



**M plug connector (M)**
**VZ3$^{3}_{5}$40-□M□□-01**

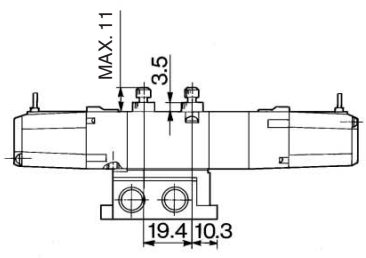



□: With light/surge voltage suppressor

**DIN terminal (D)**
**VZ3$^{3}_{5}$40-□D□□-01**




**Built-in speed controllers**
**VZ3$^{3}_{5}$50-□□□□**



# Made to Order Specifications:

Please contact SMC for detailed specifications, dimensions, and delivery.



## 1. Solenoid Valve: External Pilot Specifications

### Applicable solenoid valve series

VZ3000/5000
(Non plug-in type only)

### Model no.

VZ $\frac{3}{5}$ □□ 0– □□□□□(–□) – X20

Entry is the same as standard products.

### Specifications

| | | |
|---|---|---|
| Operating pressure range (MPa) | Main pressure | –100 kPa to 0.7 |
| | External pilot pressure | 0.15 to 0.7 |
| Pilot exhaust method | | Pilot valve individual exhaust |

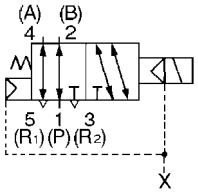
### Dimensions

VZ3000: 8 mm longer
VZ5000: 8 mm longer

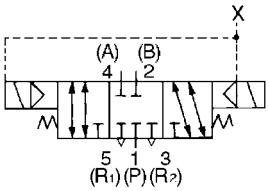
**JIS Symbol**

Body ported

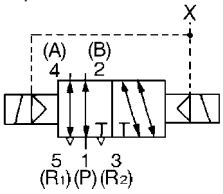
2 position single



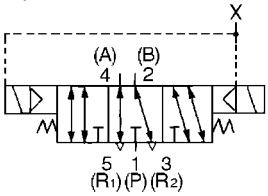

3 position closed center



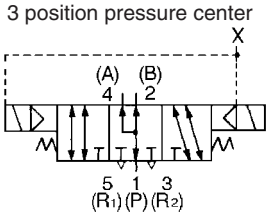

2 position double




3 position exhaust center




3 position pressure center



# Made to Order Specifications:

Please contact SMC for detailed specifications, dimensions, and delivery.

## 2. Solenoid Valve: Special Manual Override

**Applicable solenoid valve series**

VZ3000
(Non plug-in type only)

**Model no.**

VZ3 □□□–□□□A(–□)

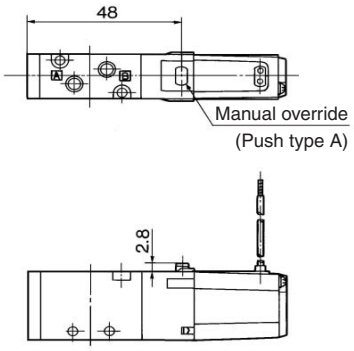
Entry is the same as standard products.

**Manual override**

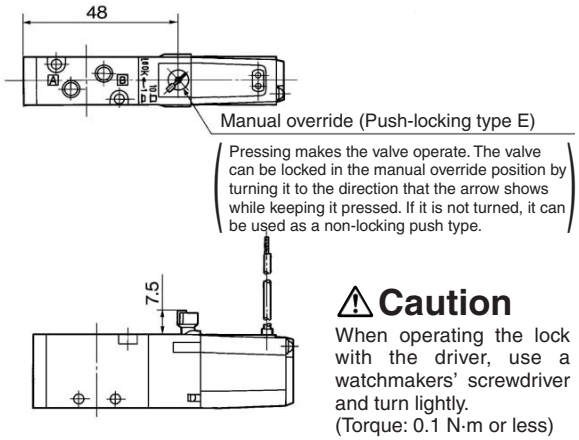
| | |
|---|---|
| A | Push type A |
| E | Push-locking type E |

**Dimensions: Single**

**Push type A**




**Push-locking type E**




**⚠Caution**

When operating the lock with the driver, use a watchmakers' screwdriver and turn lightly.
(Torque: 0.1 N·m or less)

Note) Because the manual override unit protrudes, the manual override could activate unintentionally if the protrusion is touched or an object falls on it. Therefore, take the proper preventative measures.

## 3. Solenoid Valve: Opposite Mount of Solenoid Assembly

**Applicable solenoid valve series**

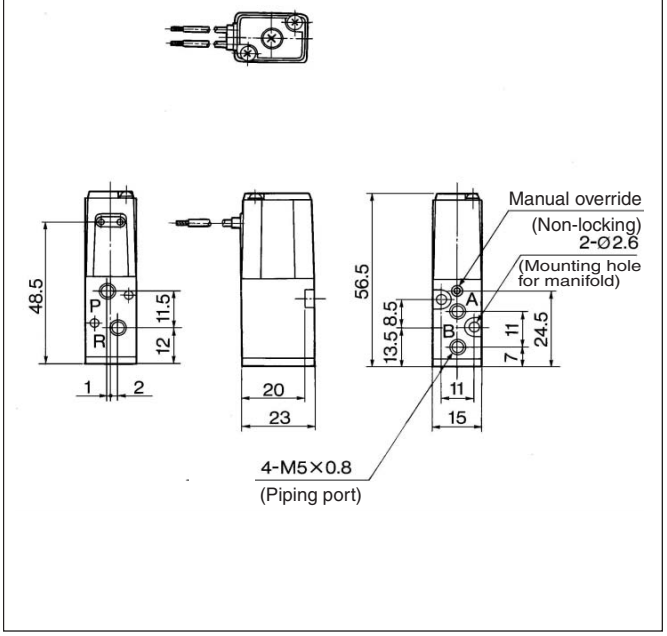
VZ1000/3000/5000
(Non plug-in type only)

**Model no.**

VZ1/3/5 □□□–□□□□(–□)–X1

Entry is the same as standard products.

**Dimensions: VZ1120-□G-M5-X1**



**Artisan Technology Group** is an independent supplier of quality pre-owned equipment

## Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

## We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

## Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP