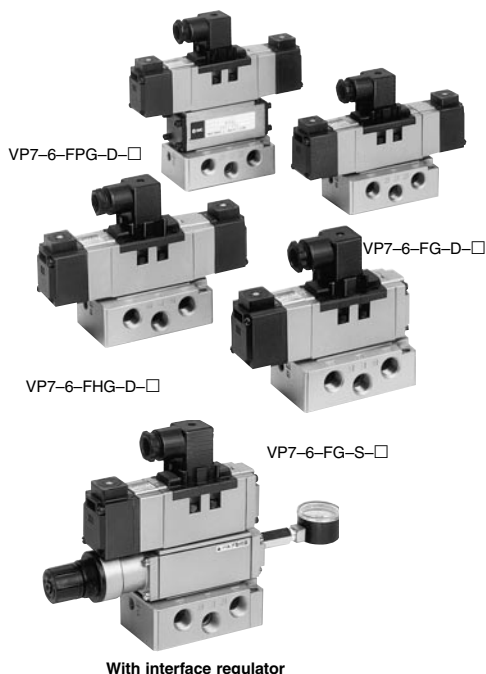


ISO Standard Solenoid Valve/SIZE①

Rubber Seal

Series VP7-6



| | Single solenoid (FG-S) | Double solenoids (FG-D) | Reverse pressure (YZ-S)* | Reverse pressure (YZ-D)* |
|------------|------------------------|-------------------------|--------------------------|--------------------------|
| 2 position | | | | |
| 3 position | | | | |

*Option

Standard Specifications

| Fluid | Air | |
|--------------------------------|---|------------|
| Operating pressure (MPa) | Single | 2 position |
| | Double | 2 position |
| | | 3 position |
| Ambient and fluid temperature | Max. 50°C | |
| Manual operation | Non-locking | |
| Electrical entry | DIN connector | |
| Lubrication | Turbine oil class 1 (ISO VG32) Non-lube operation possible. | |
| Shock/Vibration resistance (1) | 300/50m/s ² | |



Note 1) Shock resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle direction of the main valve and armature, for both energized and de-energized states.

Vibration resistance: No malfunction occurred in a one-sweep test between 8.3 and 2000Hz.

Test was performed at both energized and de-energized states to the axis and right angle direction of the main valve and armature. (value in the initial stage.)

Pilot Valve Specifications

| Part No. | AXT511B-1 | AXT511B-2 | AXT511B-3 | AXT511B-4 |
|------------------------------------|-------------------------------|-----------------|-----------|-----------|
| Rated voltage (V) | 100V AC 50/60Hz | 200V AC 50/60Hz | 24V DC | 12V DC |
| Inrush current (A) ⁽¹⁾ | 0.049/0.043 | 0.024/0.021 | 0.075 | 0.15 |
| Holding current (A) ⁽¹⁾ | 0.031/0.020 | 0.015/0.01 | | |
| Allowable voltage (V) | 85 to 110% of rated voltage | | | |
| Coil insulation | Class B (130°C) or equivalent | | | |

Note 1) At rated voltage

Accessories

| | |
|-----------------------------------|-------------|
| Mounting screw (Including washer) | TA-B-5 X 35 |
| Gasket | AXT500-13 |

Options

| | |
|----------------------|--|
| Protection circuit | Surge voltage suppressor |
| Reverse pressure (1) | R1/R2 port pressurized, R1=P1 pressure, R2=P2 pressure |



Note1) Operate under the condition of P1>P2 when "YZ-S" is used.

Interface Regulator (Options)

| Model | Regulation port | Note |
|-------------|-----------------|--------------------------------------|
| ARB250-00-P | P | Refer to p.1.9-3 for specifications. |
| ARB250-00-A | A | |
| ARB250-00-B | B | |

Model

| No. of positions | Model | Effective area (1/4 with sub-plate) (mm ²) (Nz/min) | Max. operating frequency (1) (c/s) | Response time (2) (S) | Weight (3) (kg) |
|------------------------|-----------------|---|------------------------------------|-----------------------|-----------------|
| 2 (Single) | VP7-6-FG-S-Q-Q | 30 (1639.11) | 5 | 0.04 or less | 0.53 |
| 2 (Double) | VP7-6-FG-D-Q-Q | 30 (1639.11) | 5 | 0.04 or less | 0.73 |
| 3 (Closed centre) | VP7-6-FHG-D-Q-Q | 28.8 (1570.40) | 3 | 0.06 or less | 0.73 |
| 3 (Exhaust centre) | VP7-6-FJG-D-Q-Q | 28.8 (1570.40) | 3 | 0.06 or less | 0.73 |
| 3 (Double pilot check) | VP7-6-FPG-D-Q-Q | 20 (1079.65) | 3 | 0.06 or less | 1.13 |
| 3 (Pressure centre)* | VP7-6-FIG-D-Q-Q | 20 (1079.65) [14.4 (785.2)] | 3 | 0.06 or less | 0.73 |



Note 1) Min. operating frequency: Based on JIS B8375 (once in 30 days).

Note 2) According to JIS B8375-1975 dynamic performance test. (0.5MPa, Coil temperature: 20°C, At rated voltage, Without surge voltage suppressor)

Note 3) Without sub-plate. (Sub-plate: 0.37kg)

Note 4) [] : In normal position. * Option

How to Order

E VP7-6 FG S 1 1 1 1 1 Q

| Configuration | | Solenoid | | Voltage | | Optional | | Sub-plate port size | | Connector | | Thread | |
|---------------|--|----------|--|---------|--------|----------|-----------------------|---------------------|---|-----------|--------------------|--------|--------|
| FG | | FJG | | S | Single | 1 | 100V AC, 50/60Hz | — | Without sub-plate | — | With connector | — | Rc(PT) |
| YZ* | | FPG | | D | Double | 2 | 200V AC, 50/60Hz | N | With indicator light | A02 | Side piping* 1/4 | F | G(PF) |
| FHG | | FIG* | | | | 3 | 24V DC | Z | With indicator light and surge suppressor | A03 | Side piping 3/8 | N | NPT |
| | | | | | | 4 | 12V DC | | | B02 | Bottom piping* 1/4 | T | NPTF |
| | | | | | | 9 | Others (250V or less) | | | B03 | Bottom piping 3/8 | | |

* Option

Ordering source area code

| Code | areas |
|------|--------------------------|
| - | Japan, Asia Australia |
| E | Europe |
| N | North America |

Order Made Contact SMC for other voltages (9)

Protective class class I (Mark: ⚡)

⚠ Precautions

Be sure to read before handling. Refer to p.0-33 to 0-36 for Safety Instruction and common precautions.

⚠ Caution

DIN connector(Wiring)

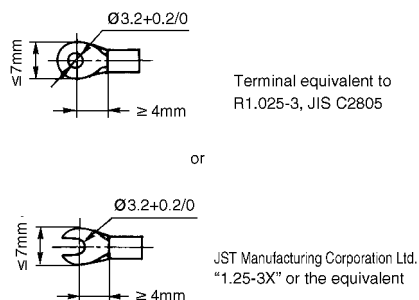
- Solenoids are connected to the male pin terminal on the DIN connector terminal block as follows. Connect to each terminal block on the connector part.

| Terminal | |
|----------|--------|
| 1 | A side |
| 2 | B side |
| 3 | COM |
| ⏏ | Ground |

Either+COM or -COM is applicable.

- Applicable cable
Core wire effective sectional area: 0.5 to 1.5mm²
Cable O. D.: ø6.8 to ø10

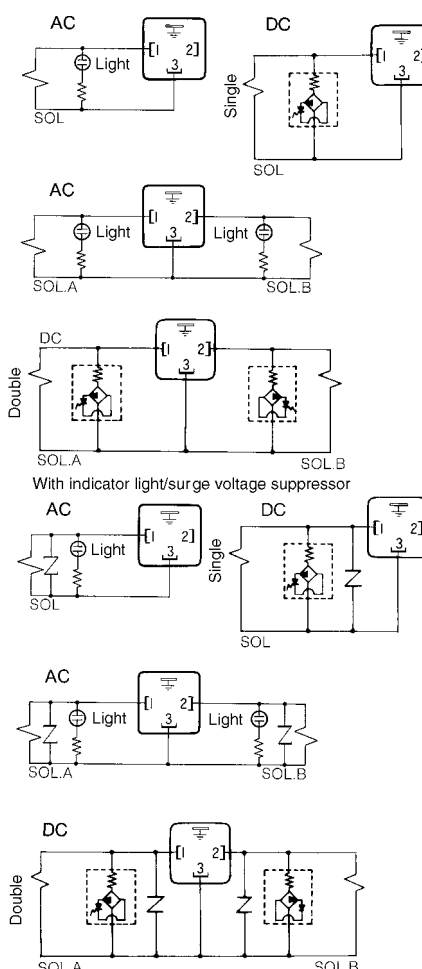
- Applicable crimp style terminal
As shown below;



- Appropriate tightening torque of the connector part
Connector fixing thread 0.5 to 0.6 Nm
Terminal thread 0.5 to 0.6Nm

Indicator Light/Surge Voltage Suppressor

With indicator light



Interface Regulator Specifications

Specifications

| | | | |
|--------------------------------------|-------------------------------|----|----|
| Model | ARB250 | | |
| Applicable solenoid valve | VP7-6 | | |
| Regulation port | A | B | P |
| Max.operating pressure | 1.0MPa ⁽¹⁾ | | |
| Set pressure range | 0.1 to 0.83MPa ⁽²⁾ | | |
| Ambient and fluid temp | 5 to 60° ⁽³⁾ | | |
| Gauge port size | 1/8 | | |
| Weight (kg) | 0.55 | | |
| Supply eff. area (mm ²) | P-A | 15 | 13 |
| S at P1=0.7MPa, P2=0.5MPa | P-B | 16 | 11 |
| Exhaust eff. area (mm ²) | A-EA | 25 | |
| S at P2=0.5MPa | B-EB | 18 | |

Note 1) Solenoid valve max. operating press. : 0.9MPa
Note 2) Set within the solenoid valve operating pressure range.

Note 3) Solenoid valve: Max. 50°C

Note 4) Effective area shown in the above table is the synthesized value with 2 position (single) type.

Note 5) Interface regulator: Pressurize only from P port of the base except when used with reverse pressure valve.

●Use the ARB210 or ARB310 model to combine a pressure center valve and the A and B port pressure reduction of an interface regulator.

●Use the ARB210 or ARB310 model to combine a reverse pressure valve and an interface regulator. The P port pressure reduction cannot be used.

●To use a double pilot check valve and an interface regulator, use a manifold or a sub-plate the standard and stack in the following order: as the double pilot check interface, an interfacier regulator, and the valve.

●When a closed center valve is combined with the A and B port pressure reduction of an interface regulator, it cannot be used for intermediate stops of the cylinder because of the leakage from the relief port of the regulator.

How to Calculate Flow Rate

Refer to p.0-36 for flow rate calculation.