



Safety precautions

# Fluid Control Components: Warnings and Cautions

Be sure to read this section before use.

## Precautions for each model series and for individual products

### Large port size dust collector (PD/PDV/PJVB)

#### Design/selection

#### ⚠ WARNING

##### 1 Ambient environment

- (1) If the gases treated by the dust collector include corrosive gases, make sure that the corrosive gases are not led toward the valve. In addition, pipe the valve so that there is no condensation at the OUT port section.
- (2) When using outdoors or where the product could come in contact with water drops, use the PDVE4 Series or PD2 or PD3 Series. (Silencer cannot be used outdoors.) PDV2 and PDV3 cannot be used in such places. Provide a cover or install a panel.
- (3) Do not use the urethane rubber in dust collectors for waste incineration.

##### 2 Take measures to prevent physical harm or property damage in the event of failure of this product.

##### 3 Refer to the specifications for the scope of each PD Series product warranty and for details on compensation.

#### ⚠ CAUTION

##### 1 Min. working pressure

The min. working differential pressure required for the PD2, PDV2, PD3, PDV3 and PDVE4 types is 0.1 MPa. If the piping cross-sectional area on the fluid inlet is reduced, the operation may become unstable due to a differential pressure fault during valve operation. The piping on the fluid inlet must have a size that matches the valve port size, and must have no restricted sections.

##### 2 Air supply rate

Maintain the header tank air supply rate at two to three times the rate used by the dust collector.

##### 3 Supply air

Do not lubricate the air supplied to the valve with a lubricator.

##### 4 Header tank capacity (PD2/PDV2/PD3/PDV3)

If the header tank is small, the tank pressure may decrease during valve operation, causing vibrations. The recommended capacity is what is shown in the table or higher.

Min. header tank capacity (recommended) 20A to 50A

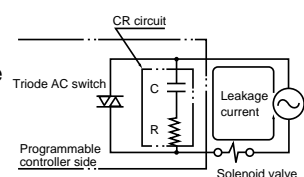
Power ON time	100 ms		200 ms	
Tank pressure	0.3 to 0.5 MPa	0.5 to 0.7 MPa	0.3 to 0.5 MPa	0.5 to 0.7 MPa
Tank capacity	20A	20 ℓ	30 ℓ	40 ℓ
	25A	30 ℓ	40 ℓ	60 ℓ
	40A	50 ℓ	80 ℓ	100 ℓ
	50A	170 ℓ	200 ℓ	340 ℓ
				400 ℓ

Min. header tank capacity (recommended) 65A to 80A, 80M

Power ON time	100 ms		200 ms	
Tank pressure	0.2 to 0.5 MPa	0.5 to 0.8 MPa	0.2 to 0.5 MPa	0.5 to 0.8 MPa
Tank capacity	65A	300 ℓ	480 ℓ	600 ℓ
	80A	500 ℓ	800 ℓ	1000 ℓ
				1600 ℓ

##### 5 Leakage current from other fluid control components (PDV3/PDV2)

When operating the solenoid valve with a programmable controller, etc., check that the output leakage current from the programmable controller is within the following specifications.



Voltage	100 VAC	200 VAC	220 VAC	24 VDC	12 VDC
Model No.					
PDV3/PDV2	6 mA or less	3 mA or less	2.7 mA or less	1 mA or less	2 mA or less

## Mounting, piping and wiring

#### ⚠ CAUTION

##### 1 Wiring

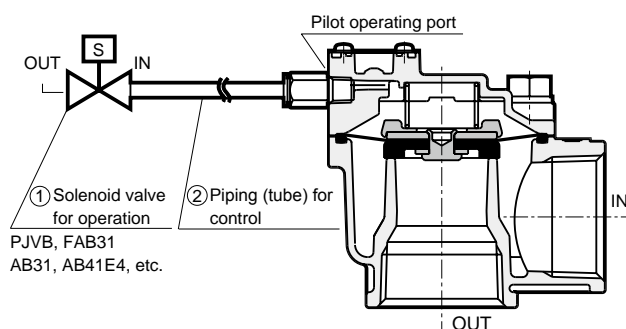
- (1) The solenoid valve has no polarity.
- (2) When using an explosion-proof solenoid valve, follow the Recommended Practices for Explosion-protected Electrical Installations in General Industries when wiring.

##### 2 Piping the valve for control

Connect the IN port of the solenoid valve for control (① in the figure below) to the pilot operating port of the pilot operated air operated valve (PD2 or PD3), and leave the OUT port of the solenoid valve for control open to the atmosphere (install a silencer if needed). Do not supply air from an external source to a pilot operating port.

The response of the pilot operated air operated valve (PD2 or PD3) changes based on the effective cross-sectional area of the solenoid valve for control and the inner diameter and length of tubing (② in the figure below) connecting the pilot operating port.

The effective cross-sectional area of the solenoid valve for control should be 5.8 to 15 mm<sup>2</sup> (equivalent to an orifice diameter of ø3 to 5). Tubing should have an inner diameter of 4 mm or 6 mm and be 1 m long or less.



# When using the product

## ⚠ CAUTION

- 1 If the pilot air discharge noise could cause noise disturbances, install a silencer on the exhaust port. If installed on a pilot exhaust port, the silencer may be clogged and malfunction over time. Replace the silencer periodically.  
Guideline for replacement: Every six months or 100,000 operation cycles.
- 2 Set the power ON time according to the dust collector's dust collection efficiency.

# Maintenance

## ⚠ CAUTION

- 1 Periodically drain the drainage if accumulated in the air filter.

EXA
FWD
HNB/G
USB/G
FAB/G
FGB/G
FVB
FWB/G
FHB
FLB
AB
AG
AP/ AD
APK/ ADK
DryAir
EX- XPLNprf
XPLNprf
HVB/ HVL
S <sup>◇</sup> B/ NAB
LAD/ NAD
Water- Rela
NP/NAP/ NVP
SNP
CHB/G
MXB/G
Other valves
SWD/ MWD
DustColl
CVE/ CVSE
CCH/ CPE/D
LifeSci
Gas- Combus
Auto- Water
Outdoor
SpecFld
Custom
Ending