Safety precautions

Always read this section before starting use.

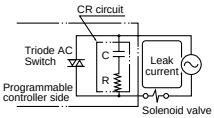
Pilot operated 2 port solenoid valve for compressed air (FAD)

Design & Selection

CAUTION

1 Leak current from other fluid control components

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



Series \ Voltage	100 VAC	200 VAC	12 VDC	24 VDC
FAD-8,10A	3mA or less	1.5mA or less	1mA or less	2mA or less
FAD-L10,15A	6mA or less	3mA or less		

Installation, Piping and Wiring

CAUTION

1 Installation

(1) The valve must be installed vertically with the coil section at the top.

2 Piping

(1) If the pipe vibrates when the solenoid valve is opened and closed, securely fix the piping.

(2) When the regulator and solenoid valve are directly connected, the parts could mutually vibrate causing resonance and chattering.

(3) If the piping cross-section area on the fluid inlet is reduced, the operation may become unstable due to a differential pressure fault during valve operation. For fluid supply piping, the pipe size must match the valve's bore size, and the piping diameter must have no restricted sections.

3 Wiring

(1) Refer to page 53 in the introduction for details on connecting the terminal box.

When Using

CAUTION

1 Instantaneous leakage

With the pilot operated 2 port valve, if sudden pressure is applied when the pump starts while the valve is closed, the valve may open for an instant causing fluid to leak. Caution is required during use.

Dust collector control (PD/PDV/PJVB)

Design & Selection

⚠ WARNING

1 Working environment

(1) If the gas treated by the dust collector contains corrosive gases, make sure that the corrosive gas is not led toward the valve.
In addition, pipe the valve so that dew does not condense at the OUT port section.

(2) When using outdoors or where it could come in contact with water, use the PDVE4 Series or PD2 or PD3 Series. PDV2 and PDV3 cannot be used at these places.
Provide a cover or install a panel.

(3) Do not use urethane rubber for the waste incineration dust collector.

2 Ensure that personnel cannot be injured or equipment be damage if this product fails.

3 Refer to the Specifications for the scope of each PD Series product guarantee and for details on compensation.

⚠ CAUTION

1 Min. working pressure

The minimum working pressure required for the PD2, PDV2, PD3, PDV3 and PDVE4 types is more than 0.1 MPa. If the piping cross-section area on the fluid inlet is reduced, the operation may become unstable due to a differential pressure fault during valve operation. For fluid supply port piping, the pipe size must match the valve's bore size and the piping diameter must have no restricted sections.

2 Air supply rate

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

3 Supplied air

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

Installation, Piping and Wiring

⚠ CAUTION

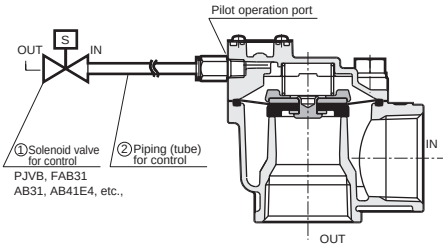
1 Wiring

(1) The solenoid valve does not have polarity.

(2) When using an explosion proof solenoid valve, follow the explosion proof policy when wiring.

2 Piping the operation valve

Connect the IN port of the solenoid valve for control (①below) to the pilot operation port of the pilot air-operated valve (PD2 or PD3), and leave the OUT port of the solenoid valve for control released into atmosphere. (Install a silencer if needed.) Do not supply air from an external source to the pilot operated port.
The response of the pilot type air operated valve (PD2 or PD3) changes based on the effective sectional area of the solenoid valve for control and the inner diameter and length of tubing (②below) connecting the pilot operation port.
The effective cross-section for the solenoid valve for control should be 5.8 to 15 mm^2 (equivalent to an orifice diameter of 3 to 5). Tubing should have an inner diameter of 4 mm or 6 mm and be 1 m long or less.



When Using

⚠ CAUTION

1 If the pilot air discharge noise could cause noise disturbances, install a silencer on the exhaust port.

2 Set the energizing time according to the dust collector dust collection efficiency.

Maintenance

⚠ CAUTION

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

Safety precautions

Always read this section before starting use.

Dust collector valve controller (OMC2)

Installation, Piping and Wiring

WARNING

1 There is a risk of electric shock if the electrical wiring connection section (bare charged section) of the dust collector valve controller is touched.

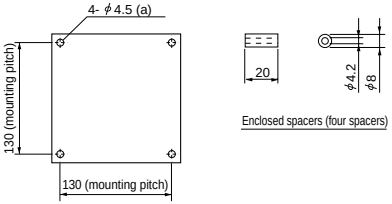
(1) Always turn the power OFF before carrying out electrical wiring. Do not touch the parts other than the switches, terminal box and jumpers.

CAUTION

1 Fixing method

(1) Install at a place where the device will not be subjected to dust or water.

(2) There are four holes (a) on the dust collector valve controller as shown below. Use M4 screws, etc, and securely fix the controller. Use the enclosed spacers as required.



2 Wiring method

Turn the main power OFF before starting wiring work.

(1) Terminal box cable (for TB4) : Use a vinyl sheath cable with a section area of 0.75 mm^2 to 2 mm^2.

(2) Treatment of wire end : Attach a crimp terminal to the end of the wire connected to the AC input and valve output (TB1, TB2).

Applicable crimp terminals (example)

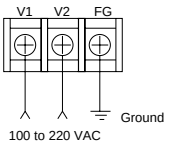
Maker	Type	Applicable wire size
JST MFG CO. LTD.	V2 - M4	1.04 to 2.63 mm^2

The applicable wire size will differ according to the crimp terminal.

3 AC input and ground

(1) Always connect the ground cable to prevent electric shocks.

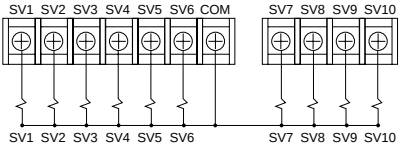
(2) Confirm that the rated voltage of the valve, and connect the corresponding voltage to the AC input terminal (V1, V2).



4 Valve output

(1) Connect in order from SV1 on the valve output terminal box for the number of valves being used.

(2) After wiring, replace the clear terminal cover.



When Using

CAUTION

1 Confirmation before use

(1) Turn off the main power.

(2) Confirm that the dust collector valve controller is securely fixed so that it will not fall off.

(3) After confirming the wiring, replace the terminal cover.

(4) Confirm that the screws on the wired terminal box are not loose.

(5) Check the power voltage with a tester, etc. The voltage fluctuation must be within ±10% of the rated voltage.

(6) When selecting the solenoid valve, consider the value indicated for the output circuit leakage current in specifications.

2 Appropriate usage method

(1) Do not touch with wet hands.

(2) Always turn the power switch "OFF" before changing the settings (touching the jumper or dip switches). There is a risk of electric shock.

(3) Do not disassemble or modify the product.

(4) Do not insert sockets into the jumper (J6).

(5) Do not use in areas where the ambient temperature is -10℃ or less or +60℃ and over.