

Pulse Valves for Dust Collector



**PV-Y Series  
PV-Z Series  
PV-ZM Series**



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## Pulse Valve for Dust Collector

### Working Principle

The electro-magnetic pulse diaphragm valve is composed of two gas cells. When the compressed air is connected, it comes into the back gas cell through the orifice. The pressure in the back gas cell pushes the diaphragm closely against the outlet of the valve and the electromagnetic valve stays in the "closed" condition.

The electrical signals from the pulsejet control device move the armature of the electromagnetic pulse valve. The air escape of the back gas cell opens and the back gas cell loses pressure quickly, thus the diaphragm moves back and the compressed air blows through the valve outlet. The electro-magnetic pulse valve comes into the "open" condition.

When the electrical signals from the pulsejet control device disappear, the armature of the electro-magnetic pulse valve returns to its original position. The air escape of the back gas cell closes and the pressure in the back gas cell rises, which pushes the diaphragm closely against the valve outlet. The electro-magnetic valve comes into its "closed" condition again.

### 3 Series of Pulse Valves

- PV-Y series electro-magnetic pulse valves are embedded valves (also called submerged ones), which are directly installed on the manifold box. They have better flow characteristics and operate with reduced pressure loss. Therefore, they are suitable for conditions where the pressure of the gas source is relatively low.
- PV-Z series electro-magnetic pulse valves is a right-angle valve, with the 90 degree angle between the inlet and outlet, which is suitable for the installation connection between the gas dome and the baghouse blow tube to provide good air flow and dust clean pulses satisfying the requirements.
- PV-ZM series electro-magnetic pulse valves are the right-angle valve same as series "z" which is suitable for the installation connection between the gas dome and the baghouse blow tube. There are fixed nuts at both ends, which make it easy to install and use the valve.

## Pulse Valve for Dust Collector

### PV-Y Series



Model	Diameter	Number of Diaphragm	Size of inlet Diaphragm	Outlet orifice Connection	Weight (kg)
PV -Y - 25	25mm (1")	1	G 1"	G 1"	0.8
PV -Y - 40S	40mm (1 1/2")	2	G 1 1/2"	G 1 1/2"	1.4
PV -Y - 50S	50mm (2")	2	G 2"	Dia 60	2.4
PV -Y - 62S	62mm (2 1/2")	2	G 2 1/2"	Dia 75	3.5
PV -Y - 76S	76mm (3")	2	G 3"	Dia 89	4.3
PV -Y - 90S	90mm (3 1/2")	2	G 3 1/2"	Dia 102	5.75
PV -Y -102S	102mm (4")	2	G 4"	Dia 114	7.3

Tolerance: +0.22~+0.44

## Pulse Valve for Dust Collector

### PV-Z Series



Model	Diameter	Number of Diaphragm	Size of inlet Diaphragm	Outlet orifice Connection	Weight (kg)
PV -Z - 20	20mm (3/4")	1	G 3/4"	G 3/4"	0.65
PV -Z - 25	25mm (1")	1	G 1"	G 1"	0.8
PV -Z - 40S	40mm (1 1/2")	2	G 1 1/2"	G 1 1/2"	1.4
PV -Z - 50S	50mm (2")	2	G 2"	G 2"	2.4
PV -Z - 62S	62mm (2 1/2")	2	G 2 1/2"	G 2 1/2"	3.5
PV -Z - 76S	76mm (3")	2	G 3"	G 3"	4.3
PV -Z - 90S	90mm (3 1/2")	2	G 3 1/2"	G 3 1/2"	5.75
PV -Z -102S	102mm (4")	2	G 4"	G 4"	7.3
PV -2L -B	20mm (3/4")	1	G 3/4"	G 3/4"	0.75

Tolerance: +0.22~+0.44

## Pulse Valve for Dust Collector

### PV-ZM Series



Model	Diameter	Number of Diaphragm	Size of inlet Diaphragm	Outlet orifice Connection	Weight (kg)
PV -ZM - 20	20mm (3/4")	1	Dia 27	Dia 27	0.9
PV -ZM - 25	25mm (1")	1	Dia 34	Dia 34	1.3
PV -ZM - 40S	40mm (1 1/2")	2	Dia 48	Dia 48	2.0

Tolerance: +0.22~+0.44

## Pulse Valve for Dust Collector

### Technical Data

<b>Working Pressure</b>	<b>0.2MPa ~0.6MPa</b>		
<b>Working Media</b>	<b>Clean air</b>		
<b>Voltage</b>	<b>DC24V</b>	<b>AC110V</b>	<b>AC220V</b>
<b>Current</b>	<b>0.8A</b>	<b>0.46A</b>	<b>0.23A</b>
<b>Temperature Level</b>	<b>- 25°C ~ 80°C - 13°F ~176°F</b>	<b>- 25°C ~ 150°C - 13°F ~302°F</b>	<b>- 25°C ~ 230°C - 13°F ~446°F</b>
<b>Relative Humidity of Air</b>	<b>≤85%</b>		
<b>Diaphragm Life</b>	<b>One million blows or 3 years</b>		

### Material Construction

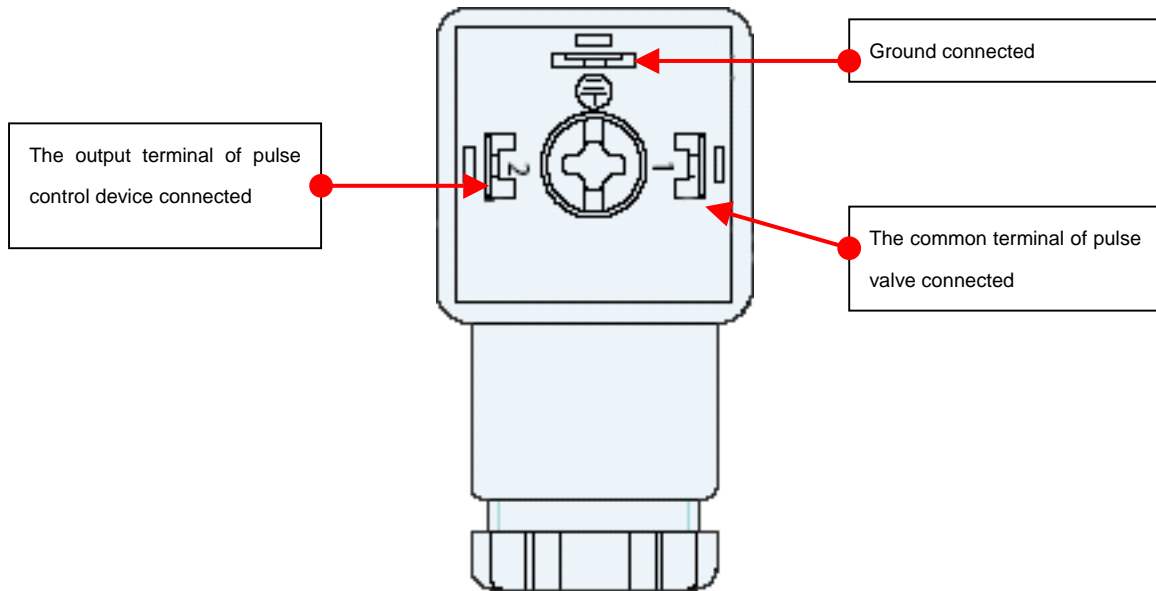
<b>Body</b>	<b>ADC12 diecast aluminum</b>
<b>Ferrule</b>	<b>304 stainless steel</b>
<b>Armature</b>	<b>430FR stainless steel</b>
<b>Diaphragm &amp; seals</b>	<b>Nitrile</b>
<b>Spring</b>	<b>321 stainless steel</b>
<b>Screws</b>	<b>302 stainless steel</b>

#### NOTE:

Good quality imported membranes shall be selected and used for all the valves, with each part checked in each manufacturing procedure, and put into the assembly line conforming to all the procedures. Every finished valve shall be taken the electriferous blowing test.

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### Sketch of Plug Connection



### Notice

The power supply uses 3/4" or 1" wire conducts with holes on the side (the number of holes being equal to number of pulse valves) and 0.3mm<sup>2</sup>~0.5mm<sup>2</sup> copper wires going through the conducts to have good electrical connection for the pulse control device. Both the spray intervals and the width are to be set by the pulse control device.

The header of the bag-house (including the connecting tube) is to be defined by the customer. Its capacity should meet the air source supplied so as to ensure steady work of electro-magnetic pulses. It should be clean on the wall of the header without any rust. The connecting tubes of the header should be installed in the perpendicular direction, be even, have no leakage and meet all safety requirements.

Sealing parts of the valve sealed from head and valve, blowing tube and valve apply to the temperature between -25°C~90°C. Please give indication for high temperature sealing parts when placing orders.

## Pulse Valve for Dust Collector

### Common Failure and Troubleshooting

Troubles during installation and commissioning

Failures	Possible Reasons	Troubleshooting
All valves cannot all be opened, but the leading part does act.	Check the gas tank pressure to see if it is too low.	Check the leakage.
Some valves do not work, but others work.	Check the valve wire connection and coil.	Replace accessories.
None of valves can be closed. There is leakage. No stable pressure in air tank.	For Y-valve, a valve leaking can cause leakage of other valves in same header. For Z-valve. The valve inlet and blowing muzzle are installed backwards.	Check the leakage or Re-install.
Some valves cannot be closed. There is leakage.	Dirt or debris on the diaphragm. The moving iron core is blocked.	Clean and check the diaphragm. Check the moving iron core and air lock.
A valve closing is slowly.	The diaphragm orifice is blocked.	Dredge the diaphragm orifice.

Troubles during use period

Failures	Possible Reasons	Troubleshooting
Some valves are leaking. The diaphragm cannot close tightly.	Some dirt or debris on diaphragm, the leading part is damaged. Moving iron core is blocked.	Clean and check the diaphragm. Check the moving iron core and the air lock. Replace the accessories if necessary.
Coil is hot and burned out.	It has been turned on for too long.	Check the working condition of the control system.
Voltage exists but the valve does not work.	Diaphragm is damaged and the orifice is blocked.	Replace the accessories in time.
Ambient temperature is below -20C°. The valve is leaking and cannot open.	Ambient temperature is too low and there is frost in the valve.	Pay attention to insulation and maintaining proper temperatures.

### *Important notice:*

Work pressure must be strictly controlled to within 2-6 kg and being stable relatively.

Before the valve is installed, it is necessary to completely clear away any impurities in the gas tank.

Compressed air must be strictly controlled and must be a clean and dry air supply.