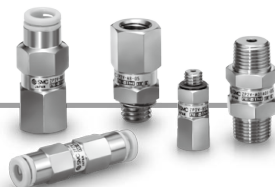


# Vacuum Saving Valve

## ZP2V Series

### How to Order

ZP2V - **A5** - **03**



Connection size (Pad side/Vacuum generator side) •

Male thread/Female thread

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side Female thread
	Male thread	Female thread	0.3	0.5	0.7	1.0	
<b>A5</b>	M5 x 0.8		○	○	○	—	
<b>A8</b>	M8 x 1.25		—	○	○	○	
<b>A01</b>	R1/8	Rc1/8	—	○	○	○	
<b>AG1</b>	G1/8		—	○	○	○	
<b>AN1</b>	NPT1/8		—	○	○	○	

• Fixed orifice size

Symbol	Fixed orifice size (mm)
<b>03</b>	0.3
<b>05</b>	0.5
<b>07</b>	0.7
<b>10</b>	1.0

Female thread/Male thread

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side Male thread
	Female thread	Male thread	0.3	0.5	0.7	1.0	
<b>B5</b>	M5 x 0.8		○	○	○	—	
<b>B6</b>	M6 x 1		—	○	○	—	
<b>B01</b>	Rc1/8	R1/8	—	○	○	○	
<b>BG1</b>	G1/8		—	○	○	○	
<b>BN1</b>	NPT1/8		—	○	○	○	

Male thread/Male thread

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side Male thread
	Male thread	Male thread	0.3	0.5	0.7	1.0	
<b>A5A5</b>	M5 x 0.8		○	○	○	—	
<b>A01A01</b>	R1/8		—	○	○	○	
<b>AG1AG1</b>	G1/8		—	○	○	○	

Female thread/Female thread

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side Female thread
	Female thread	Female thread	0.3	0.5	0.7	1.0	
<b>B5B5</b>	M5 x 0.8		○	○	○	—	
<b>B01B01</b>	Rc1/8		—	○	○	○	
<b>BG1BG1</b>	G1/8		—	○	○	○	

Male thread/One-touch fitting

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side One-touch fitting
	Male thread	One-touch fitting	0.3	0.5	0.7	1.0	
<b>A5W4</b>	M5 x 0.8	ø4	○	○	○	—	
<b>A01W6</b>	R1/8	ø6	—	○	○	○	
<b>AG1W6</b>	G1/8	ø6	—	○	○	○	

Female thread/One-touch fitting

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side One-touch fitting
	Female thread	One-touch fitting	0.3	0.5	0.7	1.0	
<b>B5W4</b>	M5 x 0.8	ø4	○	○	○	—	
<b>B01W6</b>	Rc1/8	ø6	—	○	○	○	
<b>BG1W6</b>	G1/8	ø6	—	○	○	○	

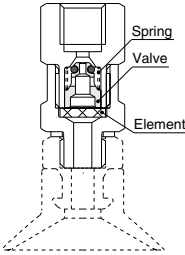
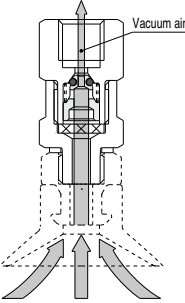
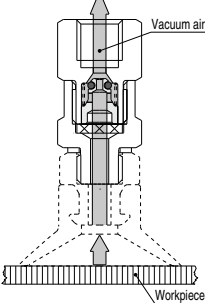
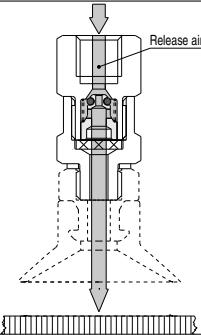
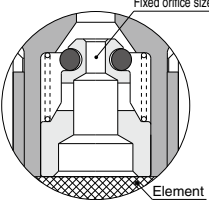
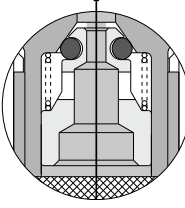
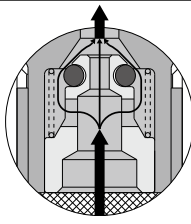
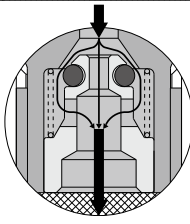
One-touch fitting/One-touch fitting

Symbol	Pad side	Vacuum generator side	Applicable fixed orifice size				Vacuum generator side One-touch fitting
	One-touch fitting	One-touch fitting	0.3	0.5	0.7	1.0	
<b>W4</b>		ø4	○	○	○	—	
<b>W6</b>		ø6	—	○	○	○	

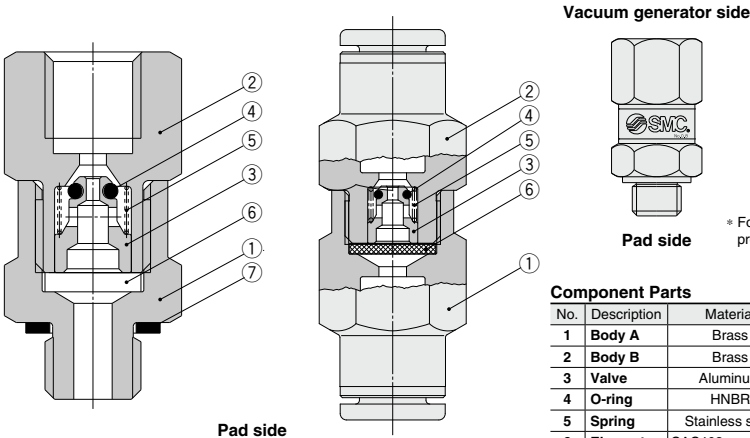
## Specifications

Connection size for pad side		M5, M6, ø4			M8, R1/8, Rc1/8, G1/8, NPT1/8, ø6		
Fixed orifice size (mm)		0.3	0.5	0.7	0.5	0.7	1.0
Effective area	When the valve is operating (mm <sup>2</sup> )	0.07	0.19	0.38	0.19	0.38	0.78
	When the valve is not operating (mm <sup>2</sup> )	1.64	1.76	1.95	1.76	2.64	3.04
Fluid		Air					
Max. operating pressure range (MPa)		0 to 0.7					
Max. operating vacuum pressure range (kPa)		0 to -100					
Ambient and fluid temperature (°C)		5 to 60 (No freezing)					
Element nominal filtration rating (μm)		40					
Min. operating flow rate (L/min (ANR))		3	5	8	5	8	16

**Working Principle**

	Initial condition	When a workpiece is sucked		When a workpiece is released
		Without workpiece	With workpiece	
Air flow				
Valve operating condition	 Since there is no air flow, the valve remains open by the spring force.	 <b>Valve closed</b> When the workpiece is separated from the vacuum pad, the valve is closed by the air flow, and the suction air can only flow through the fixed orifice. At this time, an amount of air corresponding to the fixed orifice size is sucked.	 <b>Valve open</b> When the workpiece is sucked by the vacuum pad, the suction flow reduces, and the valve is open by the spring force, which opens the path between the valve and the body for suction.	 <b>Valve open</b> When the workpiece is released, the valve is open by the vacuum release air, and the path between the valve and the body will open.

**Construction**



\* For the mounting direction of the product, refer to page 635.

**Component Parts**

No.	Description	Material	Surface treatment
1	Body A	Brass	Electroless nickel plating
2	Body B	Brass	Electroless nickel plating
3	Valve	Aluminum	—
4	O-ring	HNBR	—
5	Spring	Stainless steel	—
6	Element	CAC403 equivalent	—
7	Gasket	NBR + Stainless steel	—