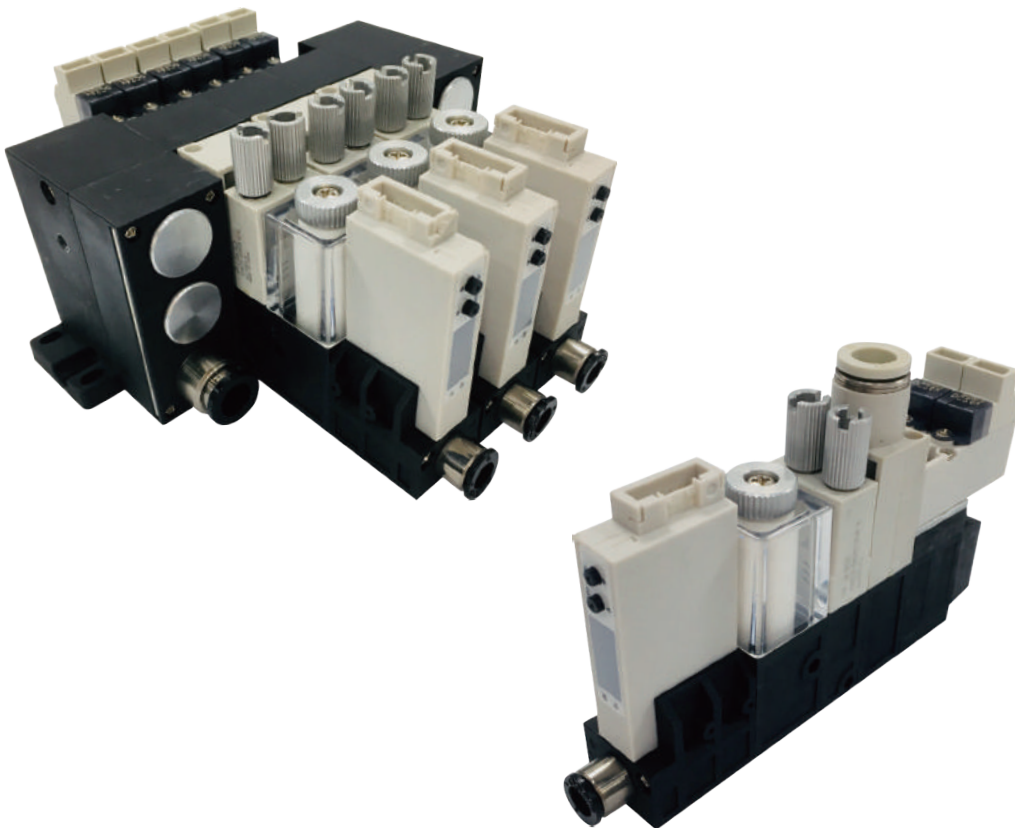


VJ VACUUM GENERATOR
SERIES



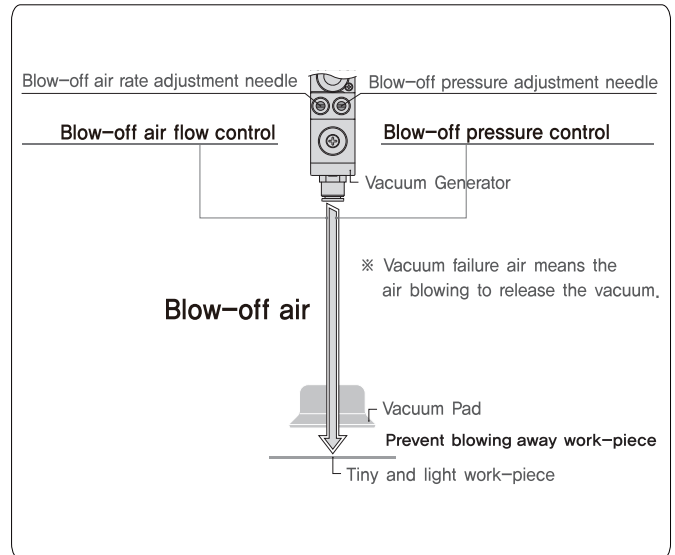
For more information
Please scan

NEW

VJ

VACUUM GENERATOR

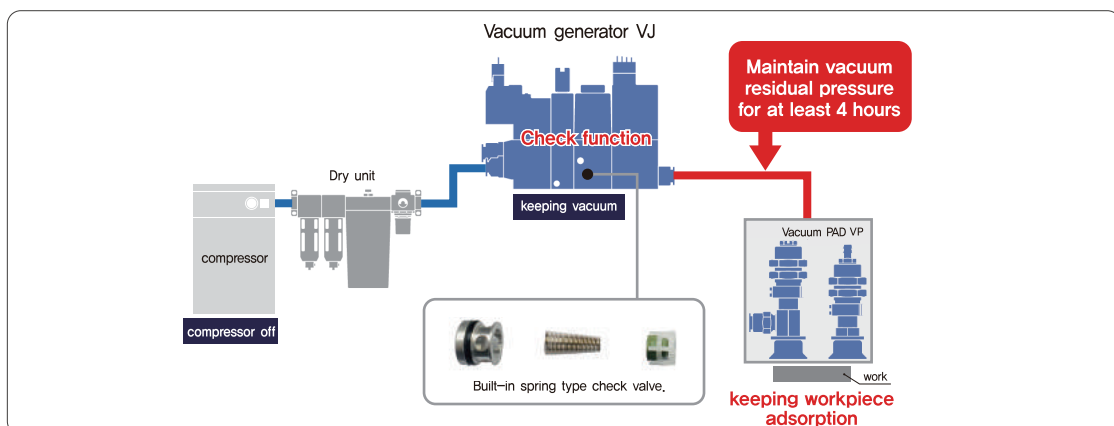
- Wide variety of combinations can cope with various needs. External Vacuum Controller for Vacuum Pump Series is for available
- For the pipe lead-out direction of concentrated piping of manifold-type, two types are available; front lead-out type and rear lead-out type.
- 3 types for supply valve
 - Double solenoid type (vacuum retention type, selectable for saving energy)
 - Normally closed type
 - Normally open type
- The vacuum sensor is an LED-indicated digital sensor (V4). The basic specification : 2 switch output and analog output



- Standard nozzle bore: 05(ø 0.5mm), 07(ø 0.7mm), 10(ø 10mm) and 12(ø 1.2mm).
- It is designed to adjust the breaking flow and breaking pressure at the same time to prevent scattering or locking of work piece which is difficult to control by only breaking flow adjustment.
- By adding a relief function to the vacuum breaker circuit, the vacuum breakdown time has been shortened for the first time in the industry.

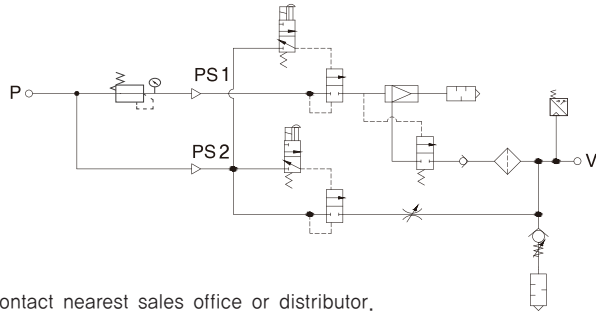
VJ check type structure

- Built-in **Spring type** check valve.
- Stable long time check.
- Vacuum ON / OFF can be performed in one operation when energy saving sensor is used.



External Pilot Type Launch

- PS1 : Port for nozzle supply
- PS2 : External Pilot Port

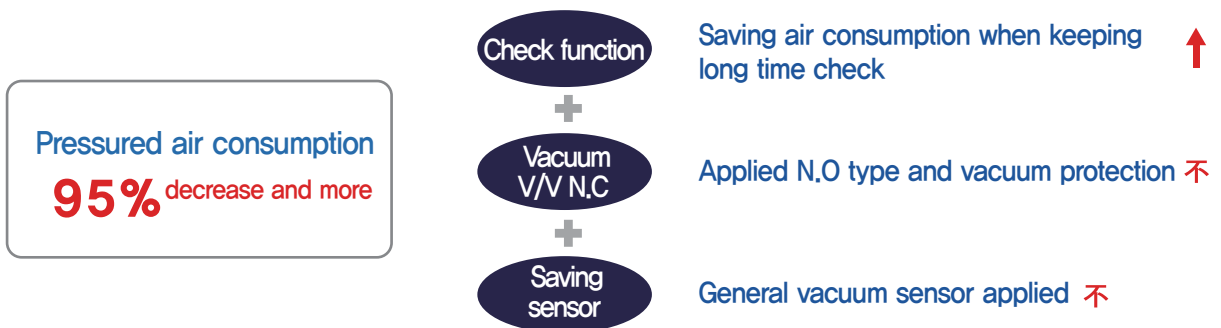


※ Since the external pilot type is special order, please contact nearest sales office or distributor.

Energy saving vacuum generator

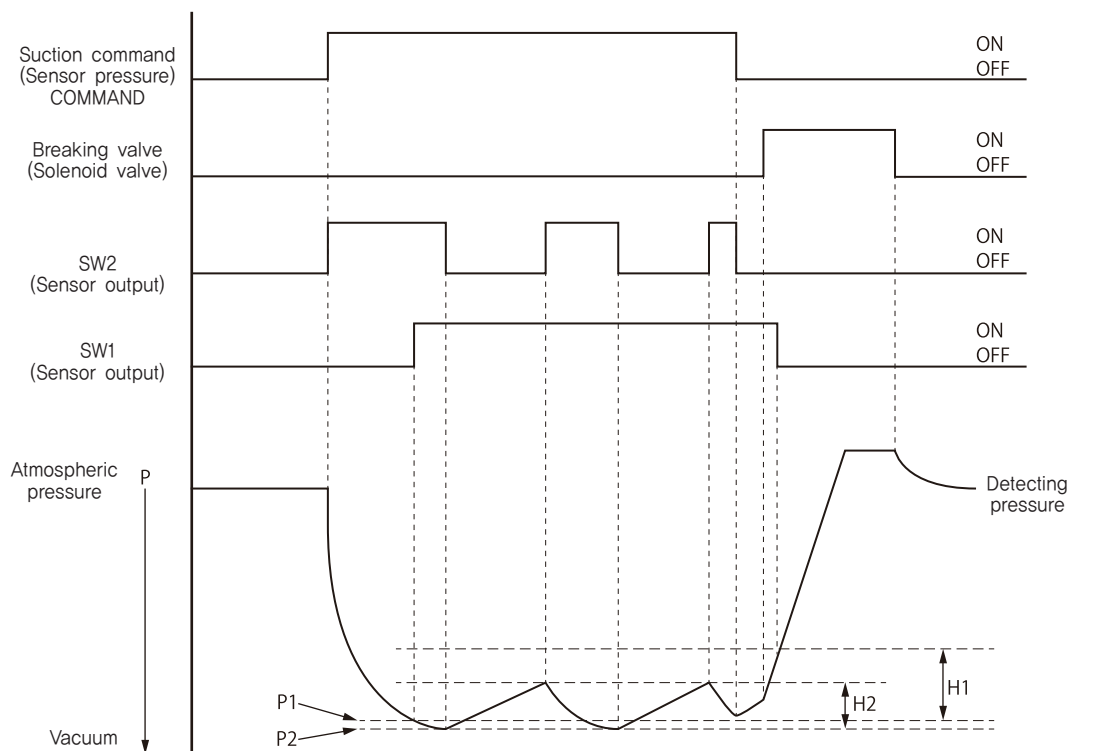
● Energy saving vacuum generator.

Cut of air, when built-in vacuum pressure sensor (with energy saving function) set vacuum valve.



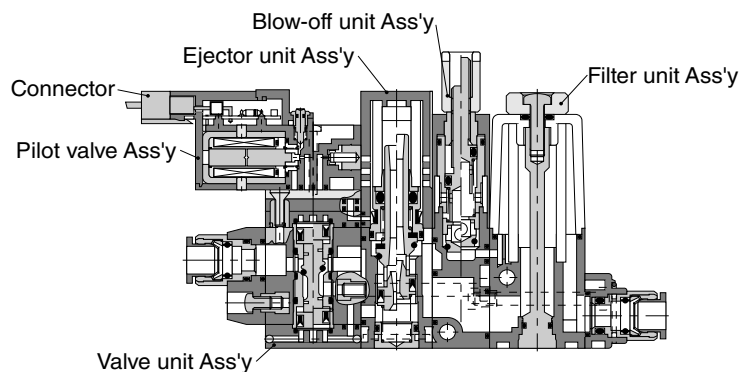
● Operation method of the sensor with energy saving function.

P1 : Switch output value(SW1) H1 : The value of course(SW1)
P2 : Switch output value(SW2) H2 : The value of course(SW2)

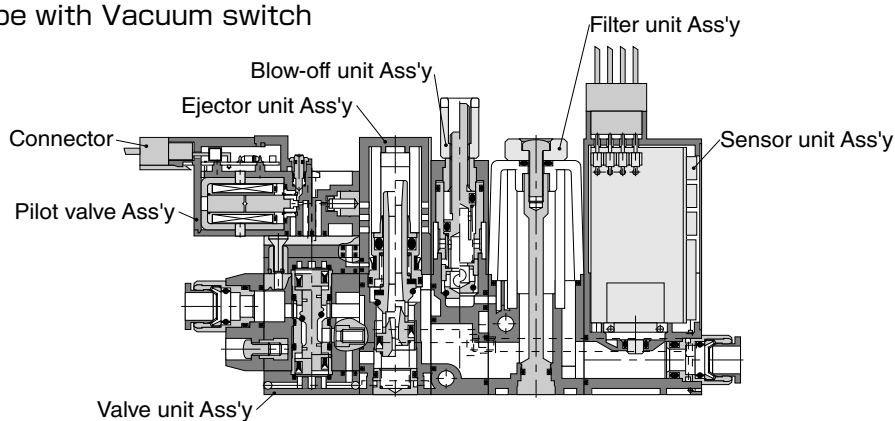


Construction

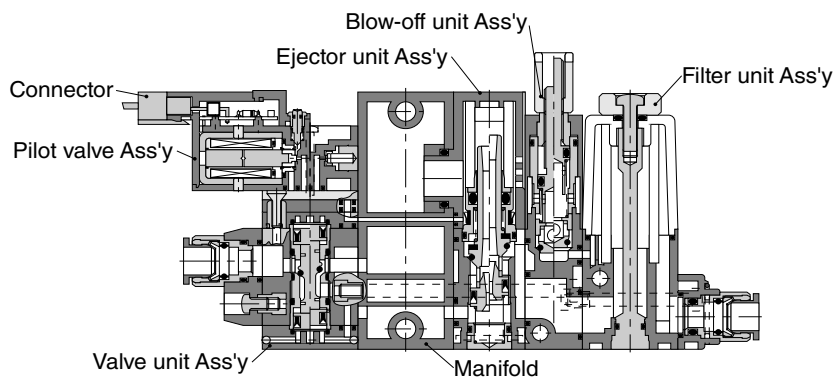
Stand-alone type without Vacuum switch



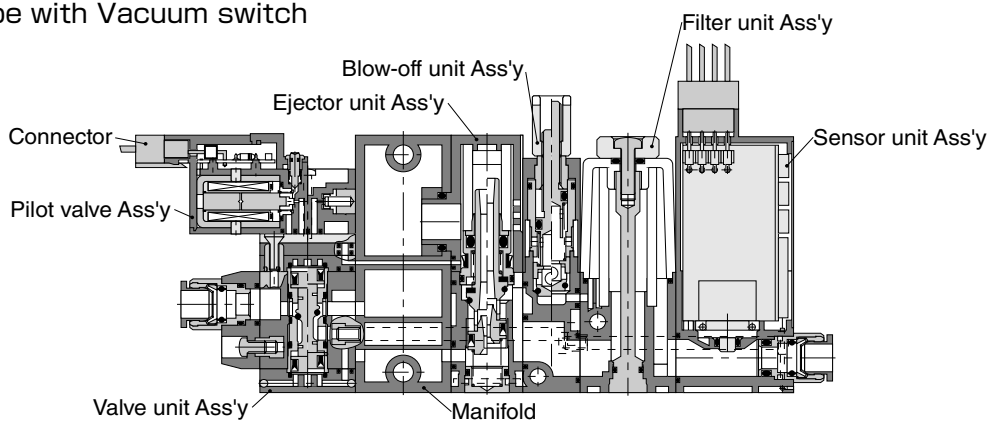
Stand-alone type with Vacuum switch



Manifold type without Vacuum switch



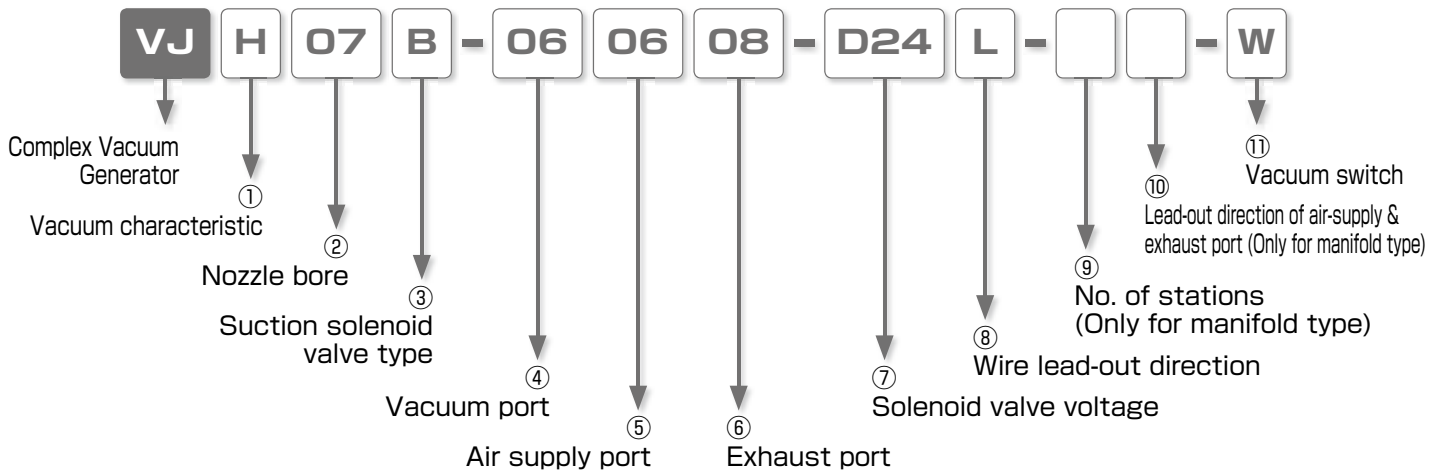
Manifold type with Vacuum switch



Vacuum Generator Series

Vacuum Generator VJ

Model Designation (Example)



① Vacuum characteristics

Code	Performance	Code	Performance	Code	Performance
H	High-vacuum type (Rated supply pressure : 0.5MPa)	L	Large-flow type (Rated supply pressure : 0.5MPa)	E	High-vacuum at low air pressure type (Rated supply pressure : 0.35MPa)
K	Combination of different vacuum characteristics on mounting units on a manifold (Details should be described on Specification Order Form separately)				

② Nozzle bore

Code	Nozzle bore	H type		L type		E type		Air consumption
		Vacuum level, Suction flow		Vacuum level, Suction flow		Vacuum level, Suction flow		
05	0.5mm	-90.4kPa 7ℓ/min(ANR)		-66.5kPa 11ℓ/min(ANR)		-		11.5ℓ/min(ANR)
07	0.7mm	-93.1kPa 13ℓ/min(ANR)		-66.5kPa 26ℓ/min(ANR)		-90.4kPa 10.5ℓ/min(ANR)		23ℓ/min(ANR) (17ℓ/min(ANR))
10	1.0mm	-93.1kPa 27ℓ/min(ANR)		-66.5kPa 40ℓ/min(ANR)		-90.4kPa 21ℓ/min(ANR)		46ℓ/min(ANR) (34ℓ/min(ANR))
12	1.2mm	-93.1kPa 38ℓ/min(ANR)		-		-90.4kPa 27ℓ/min(ANR)		70ℓ/min(ANR) (47ℓ/min(ANR))
00	Combination of different nozzle on mounting units on a manifold (Details should be described on Specification Order Form separately)							

※ Supply pressure is 0.5MPa for H and L type and 0.35MPa for E type.

※ Air consumption values in () represents that of E type.

※ The values in the table are reference values only. Suction flow varies according to the vacuum system conditions; vacuum port dia. or tube length. are reference values only. Suction flow changes according to the vacuum system conditions; vacuum port dia. or tube length.

③ Suction solenoid valve type

Code	Valve unit	Code	Valve unit	Code	Valve unit
A	Double solenoid type (Vacuum retention type)	B	Normally closed type	C	Normally open type
K	Combination of different vacuum characteristics on mounting units on a manifold (Details should be described on Specification Order Form separately)				

④ Vacuum port (Applicable tube size)

Code	04	06	08
Tube dia.(mm)	ø4	ø6	ø8

00 : With manifold types, when port size differs with each station. (Details should be described in Specification order form.)

⑤ Air supply port (Applicable tube size)

Code	04	06	08	10
Tube dia.(mm)	ø4(※ 1)	ø6	ø8(※ 2)	ø10(※ 2)

※ 1. Stand-alone type only

※ 2. Manifold type only.

⑥ Exhaust port (Applicable tube size)

	Open to air (Silencer vent)	Tube exhaust (Push-in fitting)	
Code	S	08	10
Tube dia.(mm)	—	ø8	ø10(※1)

※ 1. Manifold type only

⑦ Solenoid valve type

Code	D24	A100
Working voltage	DC24V	AC100V

⑧ Wire lead-out direction

Code	L	S	K
lead-out direction	Top	Side	Different directions on mounting units (Specification Order Form required)

⑨ No. of stations (Only for manifold type)

Code	02	03	04	05	06	07	08	09	10
No. of manifolds	2	3	4	5	6	7	8	9	10

⑩ Lead-out direction of air-supply & exhaust port (Only for manifold type)

Code	A	B
lead-out direction	Vacuum port side	Solenoid valve side

⑪ Vacuum switch

Code	W	A	K	No code
Switch type	2 switch output	1 switch output and 1 analog output	Different vacuum switches on mounting units (Specification Order Form required)	Without vacuum switch

Order Example

1 Vacuum Generator Stand-alone type

VJ H 05 A - 04 06 S - D24 L - W

- ① Vacuum characteristics : H → High-vacuum type
- ② Nozzle bore : 05 → $\phi 0.5\text{mm}$
- ③ Suction solenoid valve type : A → Double solenoid type (Vacuum retention type)
- ④ Vacuum port : 04 → $\phi 4\text{mm}$ Push-In Fitting
- ⑤ Air supply port : 06 → $\phi 6\text{mm}$ Push-In Fitting
- ⑥ Exhaust port : S → Open to air (Silencer vent)
- ⑦ Solenoid valve type : D24 → DC24VDC
- ⑧ Wire lead-out direction : L → Top
- ⑪ Vacuum switch : W → 2 switch output

2 Vacuum Generator Manifold type

VJ H 05 A - 04 10 10 - D24 L - 04 A - W

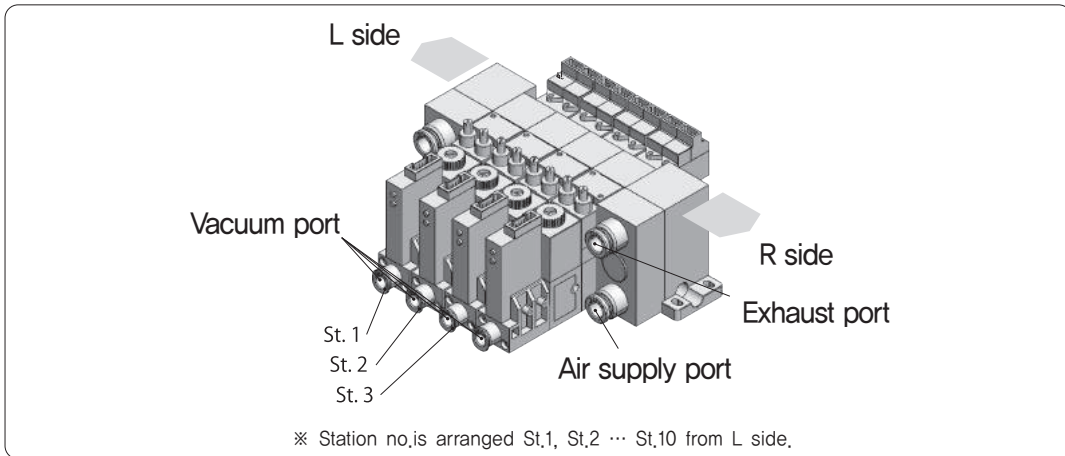
- ① Vacuum characteristics : H → High-vacuum type
- ② Nozzle bore : 05 → $\phi 0.5\text{mm}$
- ③ Suction solenoid valve type : A → Double solenoid type (Vacuum retention type)
- ④ Vacuum port : 04 → $\phi 4\text{mm}$ Push-In Fitting
- ⑤ Air supply port : 10 → $\phi 10\text{mm}$ Push-In Fitting
- ⑥ Exhaust port : 10 → $\phi 10\text{mm}$ Push-In Fitting
- ⑦ Solenoid valve type : D24 → 24VDC
- ⑧ Wire lead-out direction : L → Top
- ⑨ No. of stations : 04 → 4 stations
- ⑩ Lead-out direction of air-supply & exhaust port : A → Vacuum port side
- ⑪ Vacuum switch : W → 2 switch output

3 Vacuum Generator Manifold type (Different mounting units on a manifold)

VJ K 00 K - 00 10 10 - D24 L - 05 A - K

- ① Vacuum characteristics : K → St.1、 St.2、 St.3 : H type
St.4 : E type
St.5 : H type
- ② Nozzle bore : 00 → St.1、 St.2、 St.3 : $\phi 0.7\text{mm}$
St.4 : $\phi 1.0\text{mm}$
St.5 : $\phi 1.2\text{mm}$
- ③ Suction solenoid valve type : K → St.1、 St.2、 St.3 : Double solenoid type
St.4、 St.5 : Normally closed type
- ④ Vacuum port : 00 → St.1、 St.2、 St.3 : $\phi 6\text{mm}$ Push-In Fitting
St.4、 St.5 : $\phi 8\text{mm}$ Push-In Fitting
- ⑤ Air supply port : 10 → $\phi 10\text{mm}$ Push-In Fitting
- ⑥ Exhaust port : 10 → $\phi 10\text{mm}$ Push-In Fitting
- ⑦ Solenoid valve type : D24 → 24VDC
- ⑧ Wire lead-out direction : L → Top
- ⑨ No. of stations : 05 → 5 stations
- ⑩ Lead-out direction of air-supply & exhaust port : A → Vacuum port side
- ⑪ Vacuum switch : K → St.1、 St.2、 St.3 : 2 switch output
St.4 : Without vacuum switch
St.5 : 1 switch output and 1 analog output

Example of Manifold Type



■ Specification Order Form (ex) : Vacuum Generator Manifold type in the previous page

Manifold model code	Vacuum characteristics ①	Nozzle bore ②	Suction solenoid valve type ③	Vacuum port ④	Air supply port ⑤	Exhaust port ⑥	Solenoid valve type ⑦	Wire lead-out direction ⑧	Check valve ⑨	No. of stations ⑩	Lead-out direction of air-supply & exhaust port ⑪	Vacuum switch ⑫
VJ	K	00	K	— 00	10	10 — D24		L — 05		A — K		
L ↑ St. no. ↓ R	St.1	H	07	A	06							v4
	St.2	St.1										
	St.3	St.1										
	St.4	E	10	B	08							
	St.5	H	12	B	08							v4
	St.6											
	St.7											
	St.8											
	St.9											
	St.10											

Vacuum Generator VJ series Specification Order Form

TO : PISCO KOREA PNEUMATIC CO.,Ltd.

Manager :

— Order in the following format —

Company name :

Manager: • Department: • Position: • Name:

• TEL : • FAX : • E-mail :

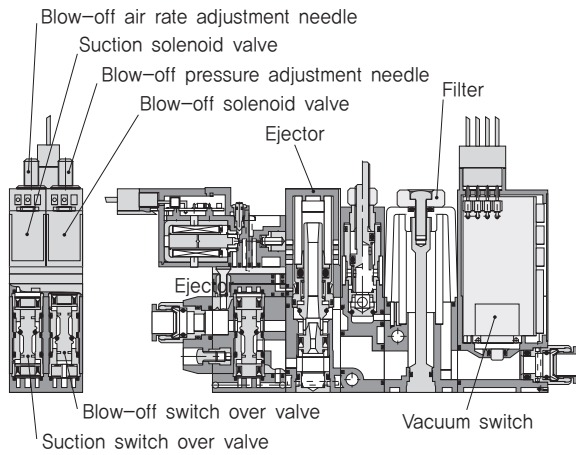
• Quantity of order: SET • Delivery:

Manifold model code	Vacuum characteristics ①	Nozzle bore ②	Suction solenoid valve type ③	Vacuum port ④	Air supply port ⑤	Exhaust port ⑥	Solenoid valve type ⑦	Wire lead-out direction ⑧	Check valve ⑨	No. of stations ⑩	Lead-out direction of air-supply & exhaust port ⑪	Vacuum switch ⑫
VJ	K	00	K	— 00	10	10 — D24		L — 05		A — K		
L ↑ St. no. ↓ R	St.1	H	07	A	06							v4
	St.2	St.1										
	St.3	St.1										
	St.4	E	10	B	08							
	St.5	H	12	B	08							v4
	St.6											
	St.7											
	St.8											
	St.9											
	St.10											

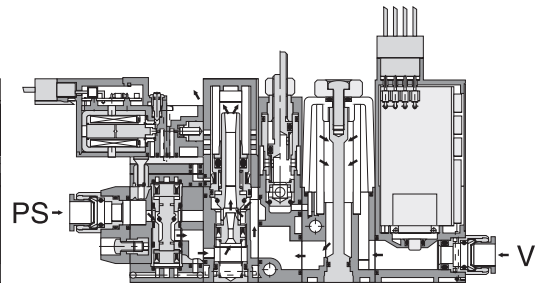
Mechanism of VJ

Example) VJ□□A-□□□-□□-□□-□ (Valve unit type : Double solenoid type (Vacuum retention type))

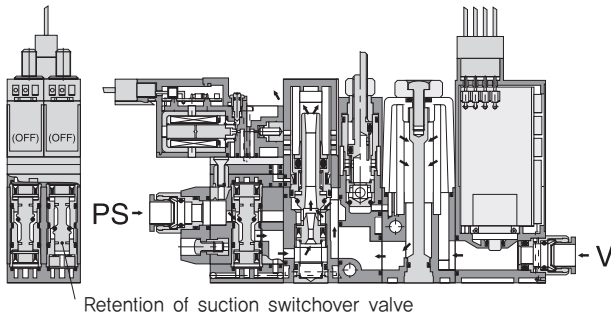
① At vacuum generation suspended



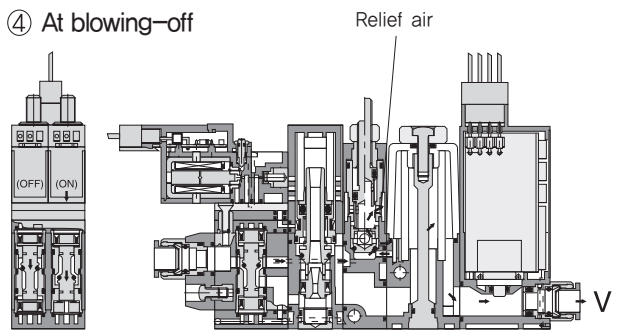
② At vacuum generating



③ At vacuum retention

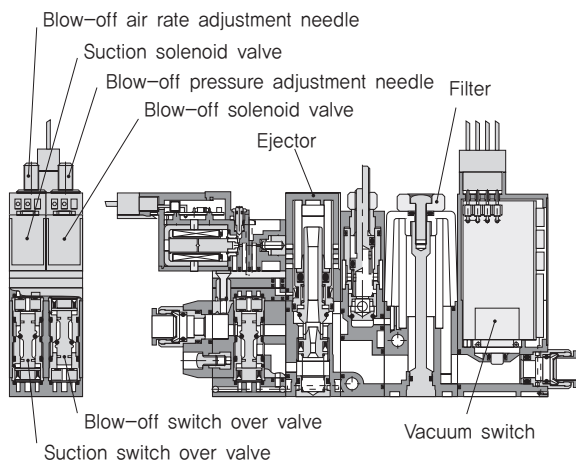


④ At blowing-off

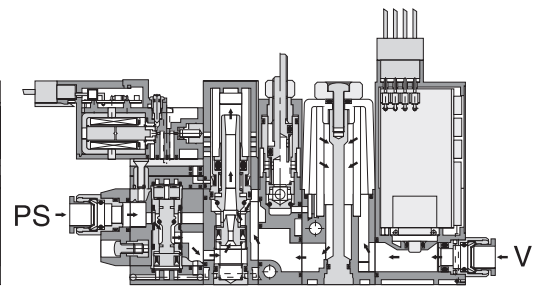


Example) VJ□□B-□□□-□□-□□-□ (Valve unit type : Normally closed)

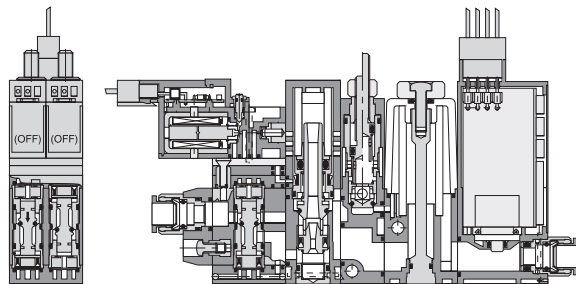
① At vacuum generation suspended



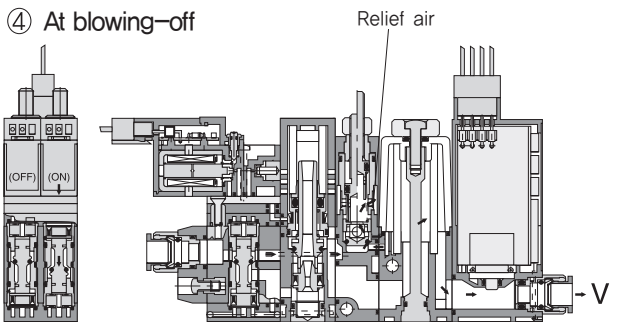
② At vacuum generating



③ At vacuum retention



④ At blowing-off



Specification

Fluid medium	Air
Operating pressure range	0.3 ~ 0.7 MPa
Rated supply pressure	H, L type : 0.5MPa, E type : 0.35MPa
Operating temp.range	5 ~ 50°C

Ejector characteristics

Model code	Model code (mm)	Final vacuum (-kPa)	Suction flow (ℓ/min(ANR))	Air consumption (ℓ /min(ANR))
VJH05...	0.5	90.4	7	11.5
VJL05...		66.5	11	
VJH07...	0.7	93.1	13	23
VJL07...		66.5	26	
VJE07...		90.4	10.5	
VJH10...	1.0	93.1	27	46
VJL10...		66.5	40	
VJE10...		90.4	21	
VJH12...	1.2	93.1	38	70
VJE12...		90.4	27	47

※ Secure supply pressure as listed when the vacuum generator is in operation.

※ The values in the table are reference values only. Suction flow varies according to the vacuum system conditions; vacuum port ia, or tube length.

※ The above characteristics are the values measured at the rated supply pressure which is 0,5MPa for H and L type and 0,35MPa for E type.

Solenoid valve (Suction solenoid valve / Blow-off solenoid valve)

Pilot valve

Item	Suction solenoid valve		Blow-off solenoid valve	
Operating system	Direct operation			
Valve construction	Elastic seal, Poppet valve			
Rated voltage	DC24V	AC100V	DC24V	AC100V
Allowable voltage range	DC24V ±10%	AC100V ±10%	DC24V ±10%	AC100V ±10%
Surge protection circuit	Diode	Diode bridge	Diode	Diode bridge
Power consumption	1,2W(with LED)	1,5VA(with LED)	1,2W(with LED)	1,5VA(with LED)
Manual operation	Push & Lock type			
Operation indicator	During coil excitation, Red LED is on			
Wiring type	Connector wire (cable length : 500mm)			
	Red : DC24V Black : COM	Blue	Red : DC24V Black : COM	Blue

Item	Suction solenoid valve		Blow-off solenoid valve	
Operating system	Pneumatic operation by pilot valve			
Valve construction	Elastic seal, Poppet valve			
Proof pressure	1.05MPa			
Valve type	Double solenoid(retention type)/Normally closed/Normally open		Normally closed	
Min. excitation time	50msec(Double solenoid type only)		—	
Lubrication	Not required			
Effective sectional area	Air supply port diameter	ø4mm : 3.5mm ²	1mm ²	
		ø6mm : 5mm ²		

Vacuum switch with LED display

Specification	2 switch output (-NW)	1 switch output and 1 analog output (-NA)
Current consumption	40mA or less	
Pressure detection	Diffused metaloxide semiconductive pressure transducer	
Operating pressure range	0 ~ -100kPa	
Pressure setting range	0 ~ -99kPa	
Proof pressure	0.2MPa	
Operating temp. range	0 ~ 50°C (No freezing)	
Operating humidity range	35 ~ 85%RH (No dew condensation)	
Power requirement	12 ~ 24VDC ± 10%, ripple P-P: 10% or less	
Protective structure	IEC standard IP40	
No. of pressure setting	2	1
Operating accuracy	±3%F.S. max. (at Ta=25°C)	
Differential response	Fixed (2%F.S. max.)	Variable (About 0-15% of setting value)
Switch output	NPN open collector output / 30V 80mA or less / Residual voltage: 0.8V or less	
Analog output	Output voltage	1 ~ 5V
	Zero-point voltage	1±0.1V
	Span voltage	4±0.1V
	Output current	Output current: 1mA max. (load resistance 50kΩ max.)
	LIN / HYS	±0.5%F.S. max.
Response time	About max. 2m · sec.	
Indication	2-digit red LED display	
Display frequency	About 4 times/sec.	
Indication accuracy	±3%F.S. ±2 digit	
Sensor resolution	1 digit	
Operation indication	SW1: Red LED turns ON, when pressure is above the setting. SW2: Green LED turns ON, when pressure is above the setting.	Red LED turns ON, when pressure is above the setting.
Function	1. MODE selector switch (ME / S1 / S2) 2. S1 setting trimmer (2/3-turn trimmer) 3. S2 setting trimmer (2/3- turn trimmer)	1. MODE selector switch (ME / SW) 2. SW setting trimmer (2/3- turn trimmer) 3. HYS setting trimmer (About 0-15% of setting value)

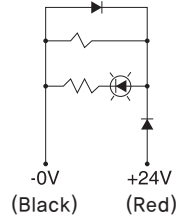
Filter specification

Element material	PVF (Polyvinyl formal)	
Filtering capacity	10µm	
Filter area	1,130mm ²	
Replacement filter	Vacuum filter	VGFE 10
Model code	Blow-off filter	VJFF

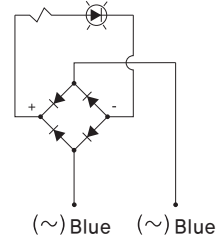
Blow-off function

Blow-off air rate	0 ~ 50l/min(ANR) (Supply pressure: 0.5Mpa)
Blow-off Release Valve structure	Elastic seal, Poppet valve
Relief pressure setting range	0.005 ~ 0.05MPa

Circuit diagram (solenoid valve)



DC24V Suction & Blow-off solenoid valve



AC100V Suction & Blow-off solenoid valve

VJ Series weight list

① Stand-alone type

Type	Model code	Weight(g)	Remarks
silencer vent with vacuum switch	VJ□□□-□□S-□□-□	164.5	Vacuum port : $\varnothing 4, \varnothing 6$
	VJ□□□-□□S-□□-□	171.0	Vacuum port : $\varnothing 8$
silencer vent without vacuum switch	VJ□□□-□□S-□□	156.0	Vacuum port : $\varnothing 4, \varnothing 6$
	VJ□□□-8□S-□□	162.5	Vacuum port : $\varnothing 8$
silencer vent with vacuum switch	VJ□□□-□□8-□□-□	169.0	Vacuum port : $\varnothing 4, \varnothing 6$
	VJ□□□-8□8-□□-□	175.5	Vacuum port : $\varnothing 8$
silencer vent without vacuum switch	VJ□□□-□□8-□□	160.5	Vacuum port : $\varnothing 4, \varnothing 6$
	VJ□□□-8□8-□□	167.0	Vacuum port : $\varnothing 8$

② Manifold intermediate

	Weight(g)	Remarks
Manifold intermediate block	18.5	Per station

③ Manifold side block

	Weight(g)	Remarks
silencer vent	118.0	Cartridge qty : 2pcs (PS port) PV and EX ports have plugs.
Tube exhaust	112.0	Cartridge qty : 4pcs (PS and EX ports) PV ports have plug.

④ Cartridge (supply and exhaust ports)

Model code	Weight(g)	Remarks
CJC14-06	11.5	For $\varnothing 6\text{mm}$
CJC14-08	10.0	For $\varnothing 8\text{mm}$
CJC14-10	13.0	For $\varnothing 10\text{mm}$

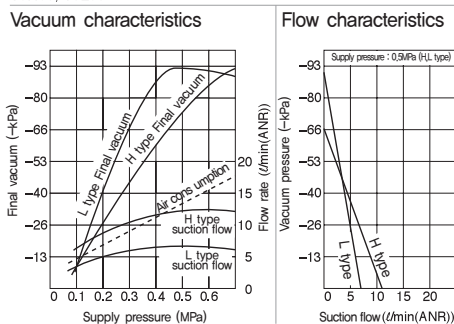
■ Total weight can be calculated by the following calculation formula.

$$\text{Total weight of manifold type} = (\text{①Stand-alone type} + \text{②Manifold intermediate block}) \times \text{station qty} + \text{③Manifold Side block} + \text{④Cartridge} \times \text{qty}$$

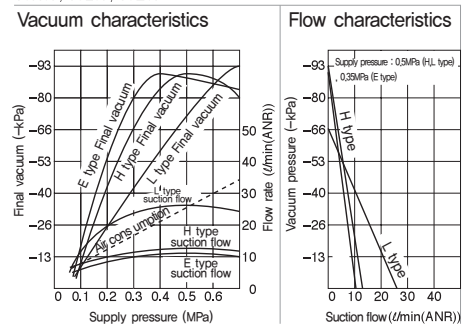
Characteristics

Supply pressure – Final vacuum, Suction flow, Air consumption

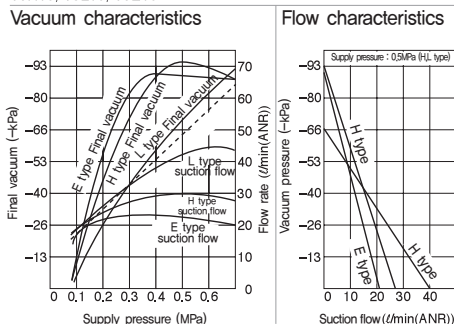
VJH05, VJL05



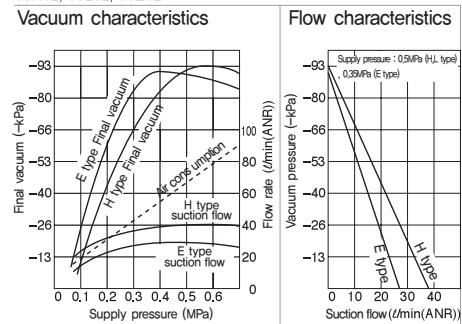
VJH07, VJL07, VJE07



VJH10, VJL10, VJE10



VJH12, VJL12, VJE12



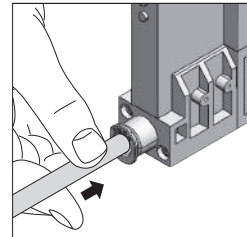
1. In the characteristics shown above, supply pressures refer to those when vacuum is generated.
2. In the characteristics shown above, an odd noise may be heard when supply pressures are immediately before the peak of vacuum levels (H (High vacuum) type: 0.4~0.45MPa, and E (High-vacuum at low air supply pressure type) type: 0.29~0.32MPa). The sounding of this odd noise means the characteristics are unstable. If nothing is done, the sound may become even noisier. This situation can also adversely affect the sensor, resulting in a malfunction or trouble. So reset the supply pressure.
(Ex. 1: When the vacuum generator H type is in operation with the original pressure of 0.5MPa, the odd noise began to be heard due to a drop in supply pressure to 0.43MPa. Reset the supply pressure for the vacuum generator in operation at 0.5MPa.)
3. Piping design and equipment selection should be made with an effective sectional area being 3 times as large as the nozzle diameter as a standard. Satisfactory vacuum characteristics are not obtained unless sufficient supply air flow is secured.(For example, the odd noise is heard even when pressure is at the set value, suction flow is insufficient, the final vacuum does not satisfy the required level, etc.) (Example2. There is the odd noise from the vacuum generator H type, though the supply pressure is 0.5MPa. → Insufficient supplied air rate is the cause. The supplied air rate is reduced before the vacuum generator by a pipe resistance, and a proper air rate is not obtained. Select tubes and pneumatic apparatuses with the target effective cross-section areas obtaining the necessary air flow rate.) (Example3. When $\varnothing 1.0\text{mm}$ of nozzle bore is selected, the effective cross-section size should be more than 2.35mm^2 . (cross-section $0.52 \times \pi = 0.785\text{mm}^2 \times 3 = 2.35\text{mm}^2$). Select tubes and pneumatic apparatuses with the effective cross-section area more than 2.3mm^2 .)

Characteristics

1. How to insert and disconnect

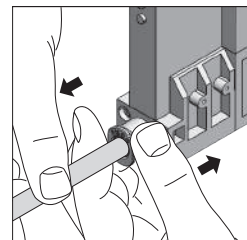
① Tube insertion

Insert a tube into Push-In Fitting of the vacuum generator VK up to the tube end. Lock-claws bite the tube to fix it and the elastic sleeve seals around the tube. Refer to "2. Instructions for Tube Insertion" under "Common Safety Instructions for Fittings".



② Tube disconnection

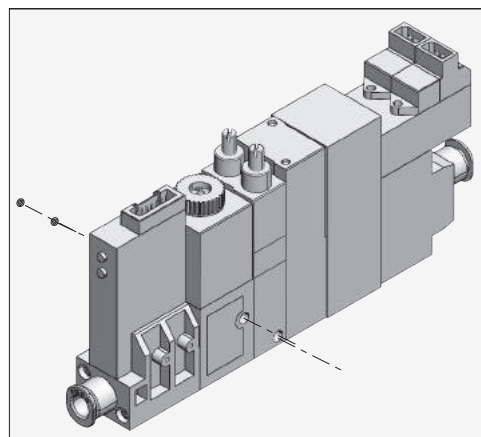
The tube is disconnected by pushing release-ring to release Lock-claws. Make sure to stop air supply before the tube disconnection.



2. How to fix the product

In order to fix the vacuum generator VK, tighten M3 threads through the fixing holes on the resin body with tightening torque 0.3 to 0.35Nm. Refer to the outer dimensional drawings for the hole pitch.

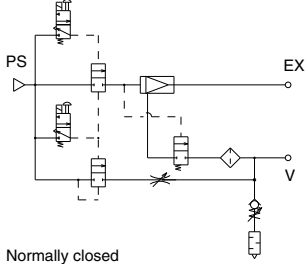
※ For general type and check valve internal waste, the position of the cabinet is different. Please refer to this information.



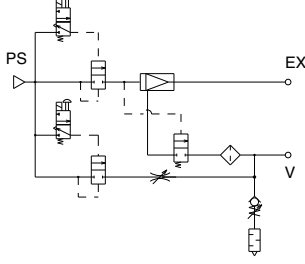
Standard Size List

Tube exhaust / Wire lead-out direction: top or side

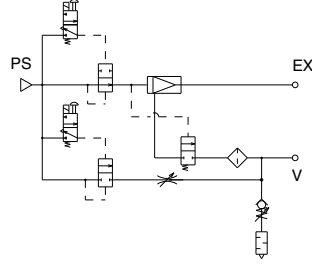
Double solenoid



Normally closed



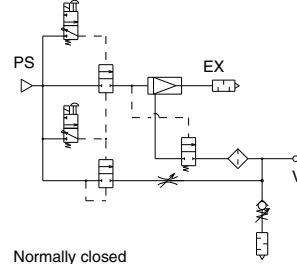
Normally open



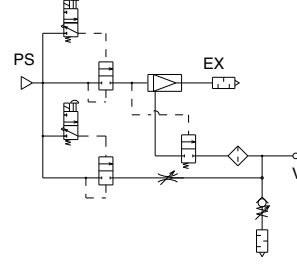
Type	Page to refer	Vacuum port	Air supply port		Exhaust port
			4mm	6mm	
VJ	177	4mm	●	●	8mm
		6mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer

Silencer vent / Wire lead-out direction: top or side

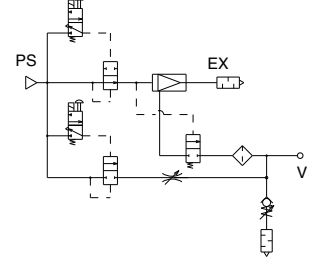
Double solenoid



Normally closed



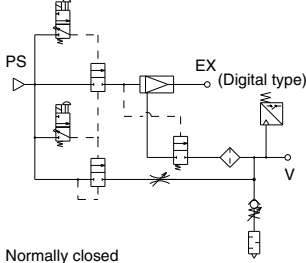
Normally open



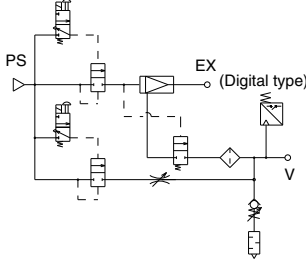
Type	Page to refer	Vacuum port	Air supply port		Exhaust port
			4mm	6mm	
VJ	178	4mm	●	●	8mm
		6mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer

Tube exhaust with vacuum switch, Wire lead-out direction: top or side

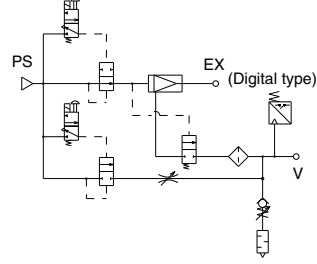
Double solenoid



Normally closed



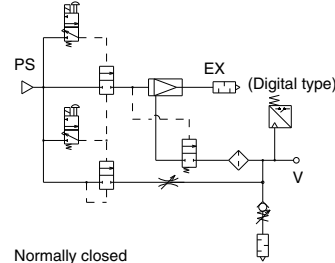
Normally open



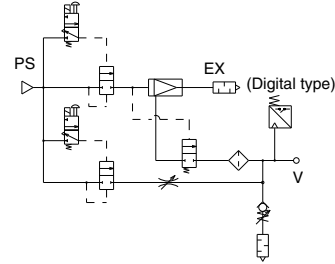
Type	Page to refer	Vacuum port	Air supply port		Exhaust port
			4mm	6mm	
VJ	179	4mm	●	●	8mm
		6mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer

Silencer vent with vacuum switch, Wire lead-out direction: top or side

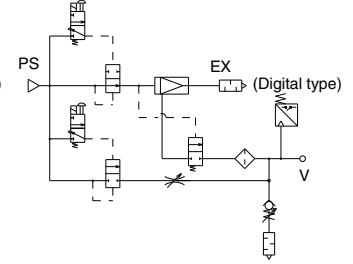
Double solenoid



Normally closed



Normally open



Type	Page to refer	Vacuum port	Air supply port		Exhaust port
			4mm	6mm	
VJ	180	4mm	●	●	8mm
		6mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer
		8mm	●	●	8mm With Silencer

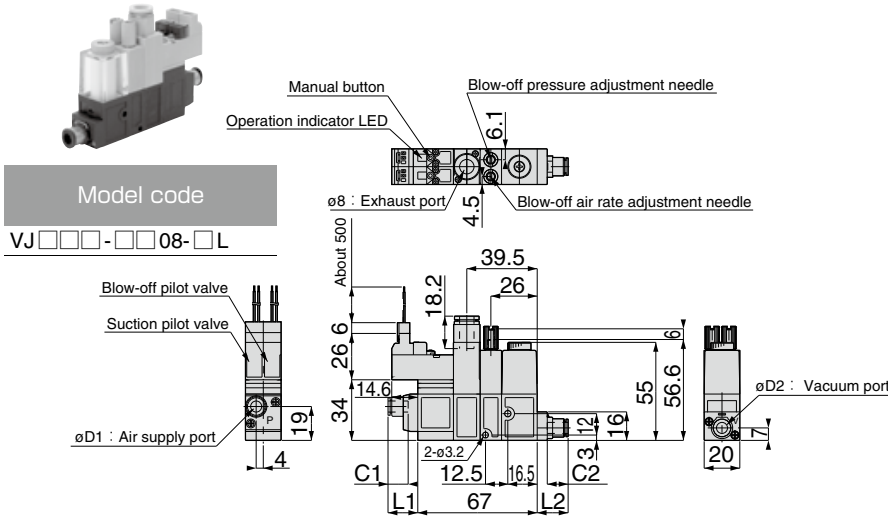
Vacuum Generator Series

Vacuum Generator VJ

VJ

Tube exhaust, Wire lead-out direction: Top

Chart P.174

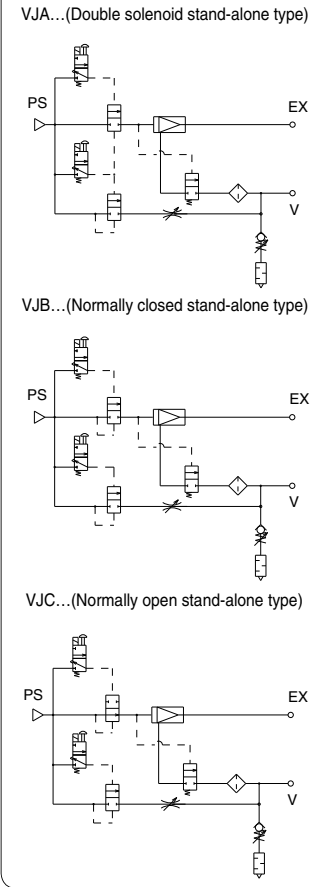


Model code
VJ□□□-□□08-□L

Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
4	11.2	14.6
6	11.7	17.1

Vacuum port applicable tube O.D. : øD2	Unit : mm	
	C2	L2
4	10.9	14.3
6	11.7	17.2
8	21.7	25.8

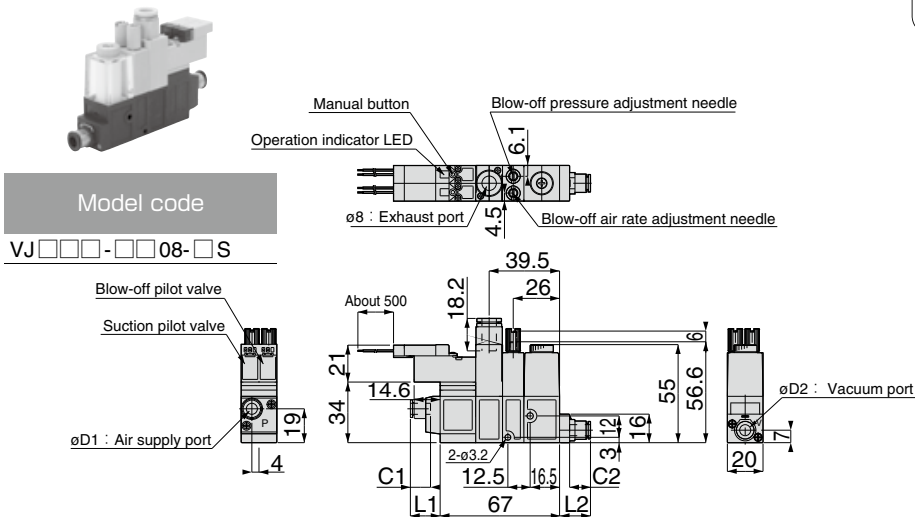
Circuit diagram



VJ

Tube exhaust, Wire lead-out direction: Side

Chart P.174



Model code
VJ□□□-□□08-□S

Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
4	11.2	14.6
6	11.7	17.1

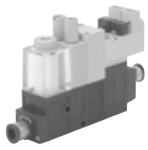
Vacuum port applicable tube O.D. : øD2	Unit : mm	
	C2	L2
4	10.9	14.3
6	11.7	17.2
8	21.7	25.8

Circuit diagram

Please refer to the above circuit.

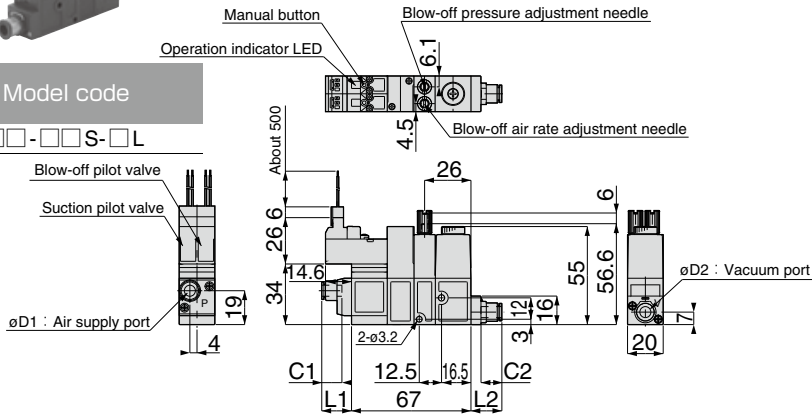
VJ Silencer vent, Wire lead-out direction: Top

Chart P.174



Model code

VJ□□□-□□S-□L

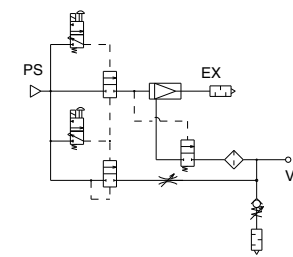


Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
4	11.2	14.6
6	11.7	17.1

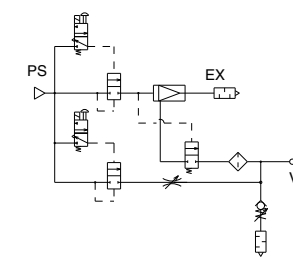
Vacuum port applicable tube O.D. : øD2	Unit : mm	
	C2	L2
4	10.9	14.3
6	11.7	17.2
8	21.7	25.8

Circuit diagram

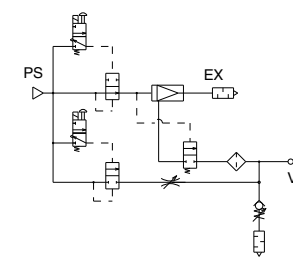
VJA...(Double solenoid stand-alone type)



VJB...(Normally closed stand-alone type)

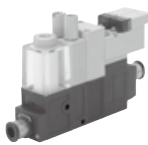


VJC...(Normally open stand-alone type)



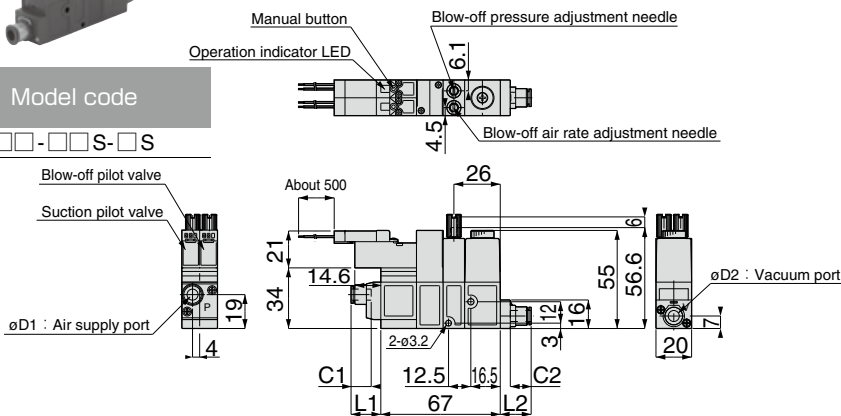
VJ Silencer vent, Wire lead-out direction: Side

Chart P.174



Model code

VJ□□□-□□S-□S



Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
4	11.2	14.6
6	11.7	17.1

Vacuum port applicable tube O.D. : øD2	Unit : mm	
	C2	L2
4	10.9	14.3
6	11.7	17.2
8	21.7	25.8

Circuit diagram

Please refer to the above circuit.

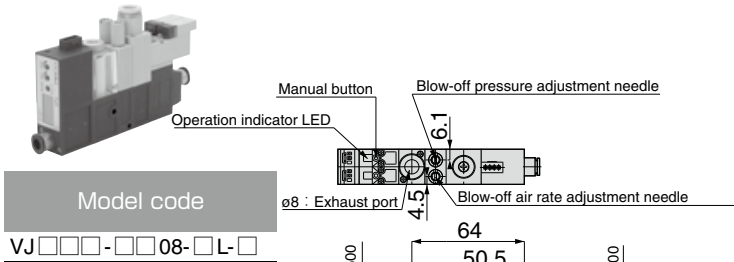
Vacuum Generator Series

Vacuum Generator VJ

VJ

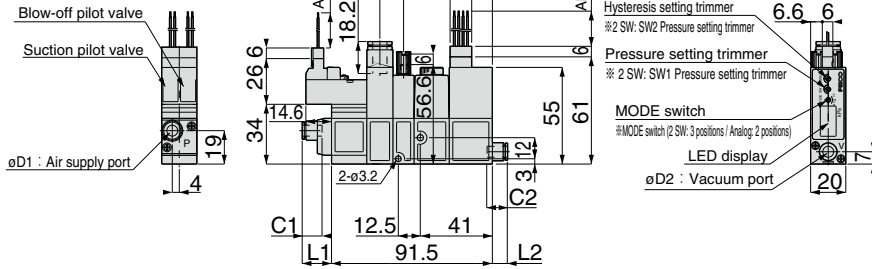
Tube exhaust with vacuum switch,
Wire lead-out direction: Top

Chart
P.174



Model code

VJ□□□-□□08-□L-□

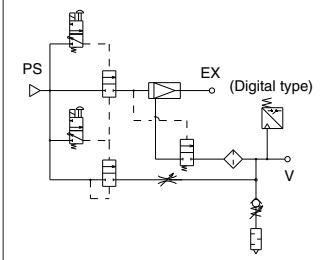


Unit : mm		
Air supply port applicable tube O.D. : øD1	C1	L1
4	11.2	14.6
6	11.7	17.1

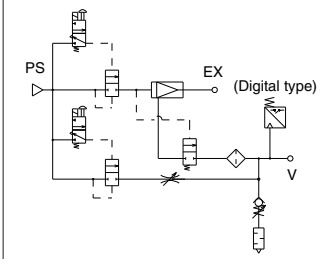
Unit : mm		
Vacuum port applicable tube O.D. : øD2	C2	L2
4	10.9	5.8
6	11.7	8.7
8	18.2	17.3

Circuit diagram

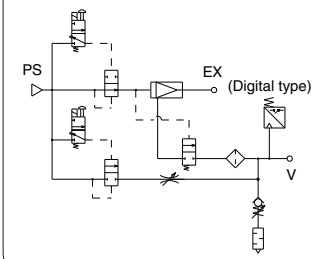
VJA...(Double solenoid stand-alone type)



VJB...(Normally closed stand-alone type)



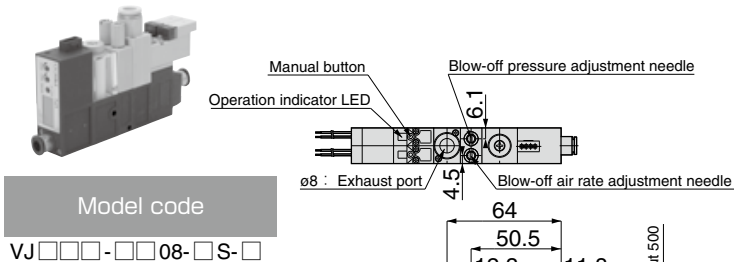
VJC...(Normally open stand-alone type)



VJ

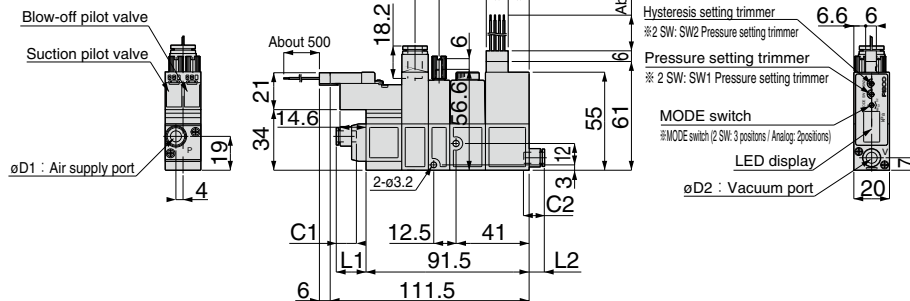
Tube exhaust with vacuum switch,
Wire lead-out direction: Side

Chart
P.174



Model code

VJ□□□-□□08-□S-□



Unit : mm		
Air supply port applicable tube O.D. : øD1	C1	L1
4	11.2	14.6
6	11.7	17.1

Unit : mm		
Vacuum port applicable tube O.D. : øD2	C2	L2
4	10.9	5.8
6	11.7	8.7
8	18.2	17.3

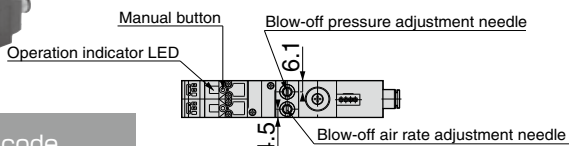
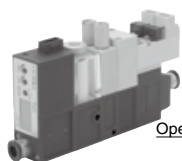
Circuit diagram

Please refer to the above circuit.

VJ

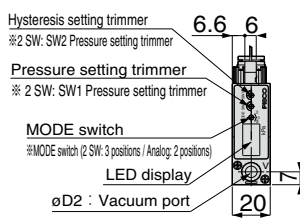
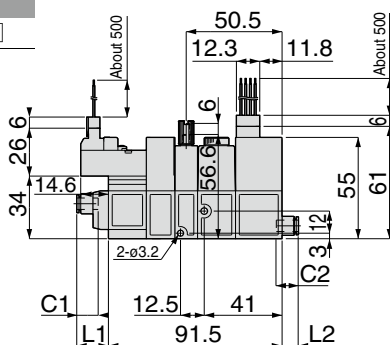
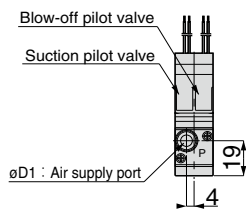
Silencer vent with vacuum switch, Wire lead-out direction: Top

Chart P.174



Model code

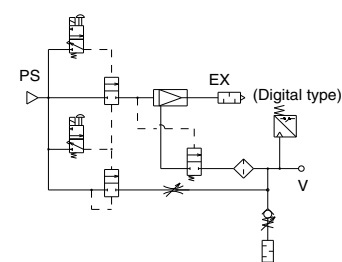
VJ□□□-□□S-□L-□



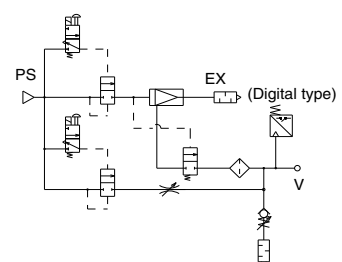
Unit : mm			Unit : mm		
Air supply port applicable tube O.D. : øD1	C1	L1	Vacuum port applicable tube O.D. : øD2	C2	L2
4	11.2	14.6	4	10.9	5.8
6	11.7	17.1	6	11.7	8.7
			8	18.2	17.3

Circuit diagram

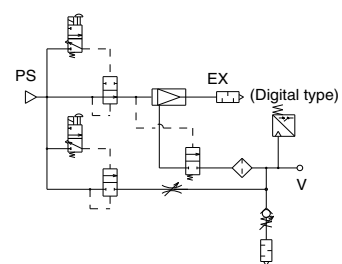
VJA...(Double solenoid stand-alone type)



VJB...(Normally closed stand-alone type)



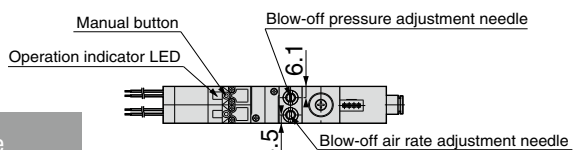
VJC...(Normally open stand-alone type)



VJ

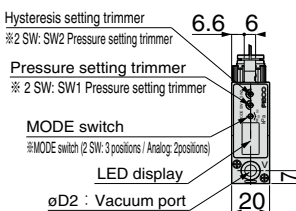
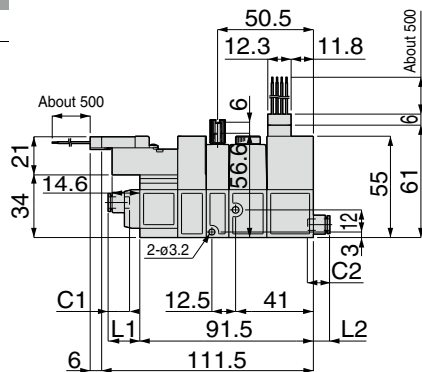
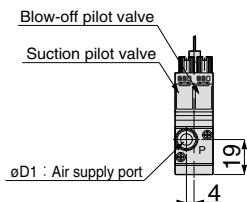
Silencer vent with vacuum switch, Wire lead-out direction: Side

Chart P.174



Model code

VJ□□□-□□S-□S-□



Unit : mm			Unit : mm		
Air supply port applicable tube O.D. : øD1	C1	L1	Vacuum port applicable tube O.D. : øD2	C2	L2
4	11.2	14.6	4	10.9	5.8
6	11.7	17.1	6	11.7	8.7
			8	18.2	17.3

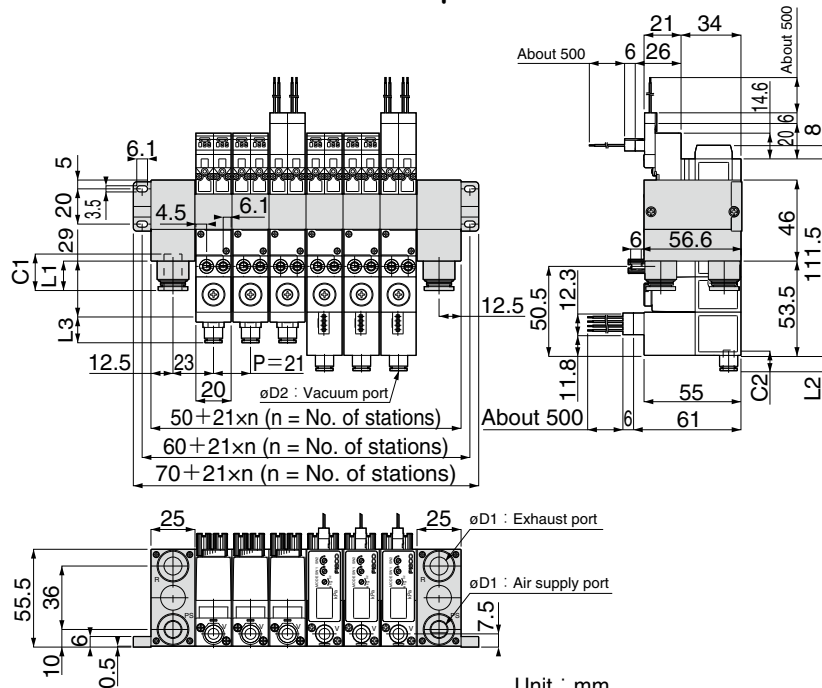
Circuit diagram

Please refer to the above circuit.

Vacuum Generator Series

Vacuum Generator VJ

VJ Manifold type, Tube exhaust, Concentrated wire lead-out direction: Vacuum port side

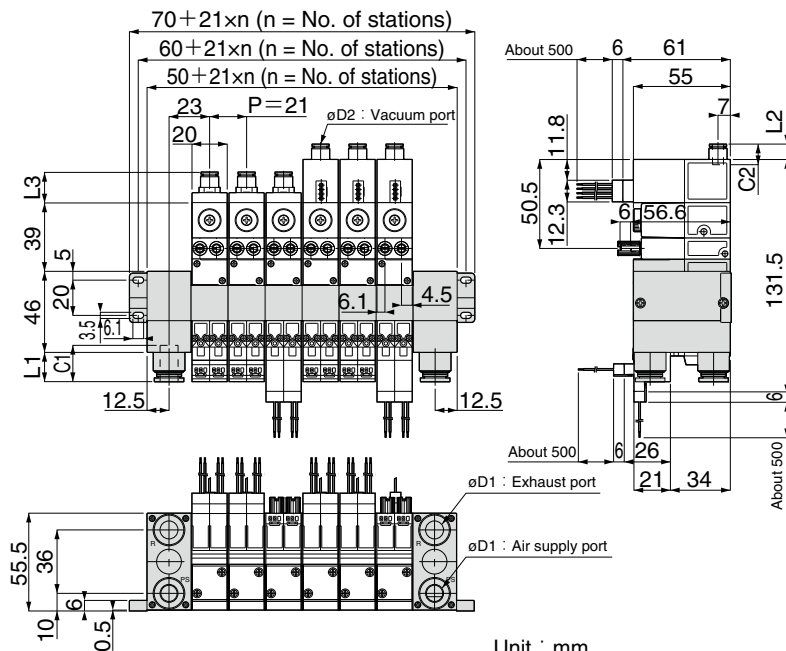


Model code
VJ□□□-□□□-□□-□A-□

Air supply and exhaust ports applicable tube O.D. : øD1	Unit : mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

Vacuum port applicable tube O.D. : øD2	Unit : mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23

VJ Manifold type, Tube exhaust, Concentrated wire lead-out direction: Supply port side



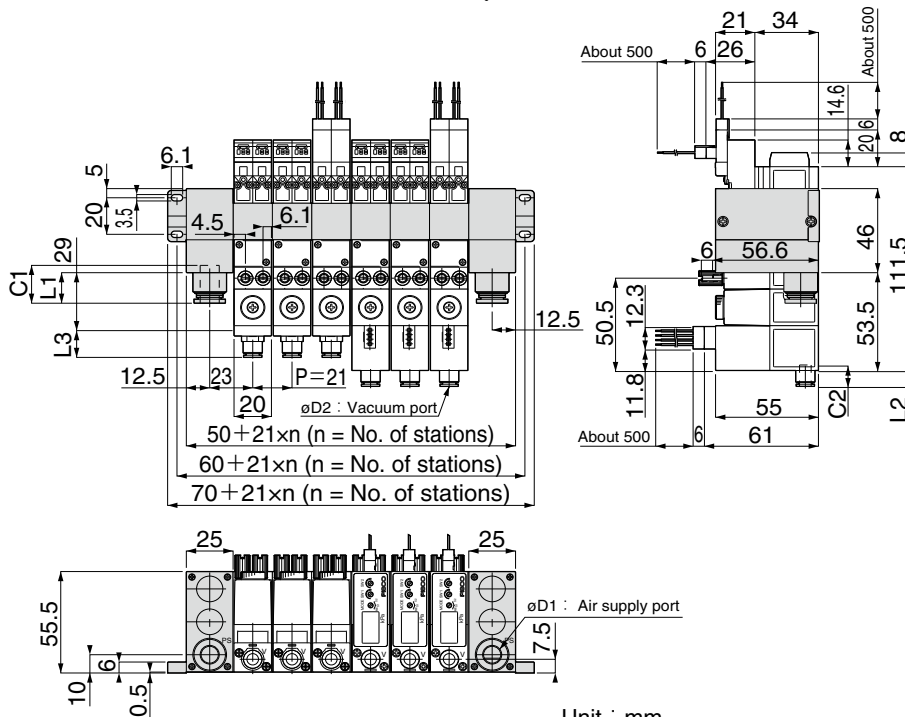
Model code
VJ□□□-□□□-□□-□B-□

Air supply and exhaust ports applicable tube O.D. : øD1	Unit : mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

Vacuum port applicable tube O.D. : øD2	Unit : mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23

VJ

Manifold type, Silencer vent, Concentrated wire lead-out direction: Vacuum port side



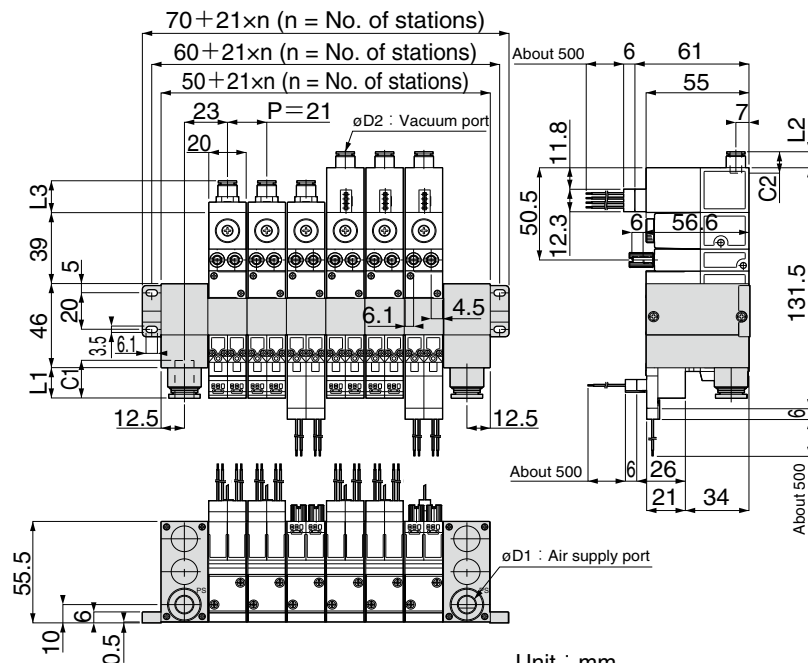
Model code
VJ□□□-□□S-□□-□A-□

Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

Vacuum port applicable tube O.D. : øD2	Unit : mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23

VJ

Manifold type, Silencer vent, Concentrated wire lead-out direction: Supply port side



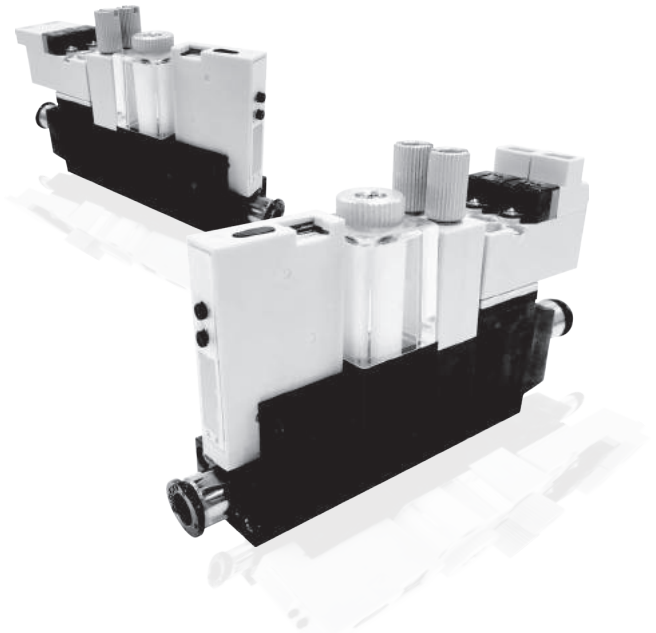
Model code
VJ□□□-□□S-□□-□B-□

Air supply port applicable tube O.D. : øD1	Unit : mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

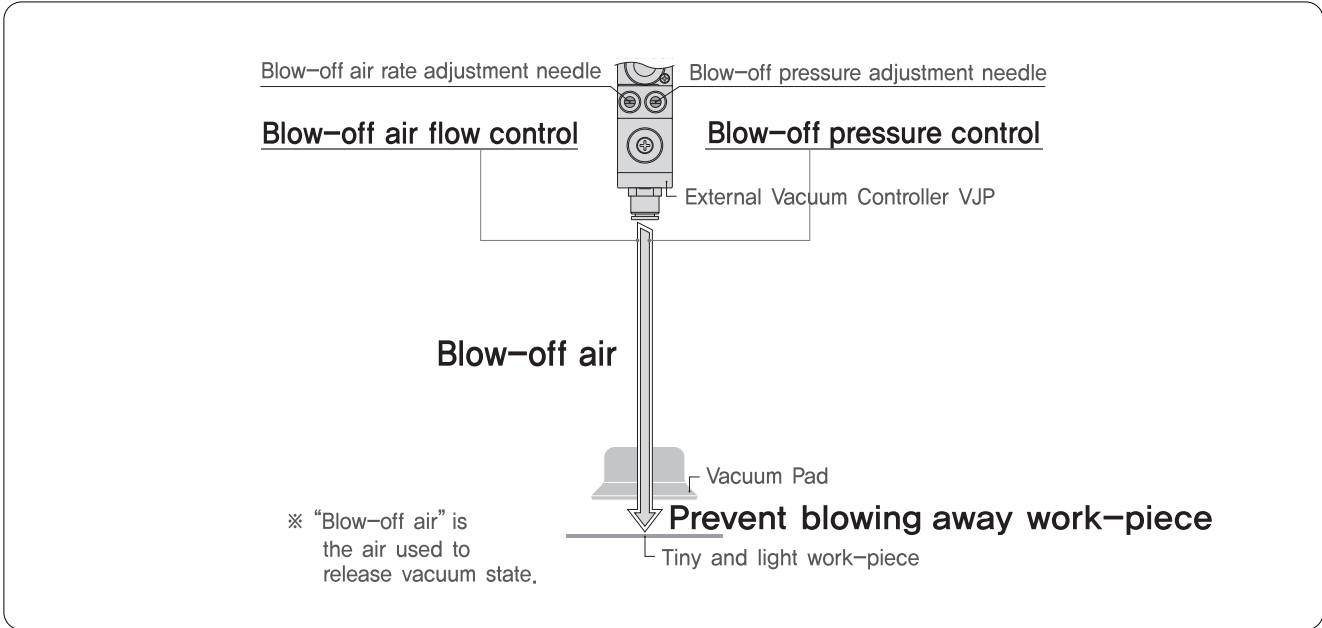
Vacuum port applicable tube O.D. : øD2	Unit : mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23

EXTERNAL VACUUM CONTROLLER WITH BLOW-OFF AIR AND RELIEF PRESSURE ADJUSTMENT

VJP EXTERNAL VACUUM CONTROLLER
SERIES

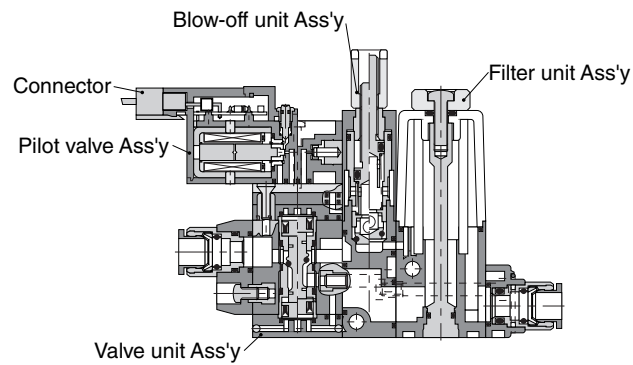


- Wide variety of combinations enables to meet various applications. Complex vacuum generator VJ Series is also available
- Manifold type is available. User-friendly wiring, 2 selections of pipe lead-out directions; Front lead-out type and rear lead-out type.
- 3 Supply valve types
 - Double solenoid type
(Vacuum retention type, selectable for saving energy)
 - Normally closed type
 - Normally open type
- Visibility improvement by adopting LED display for vacuum switch indication. There are 2 types of vacuum switch; 2 switch output and 1 switch output and analog output.
- Pressure adjustment function and blow-off flow adjusting function, it enables to prevent works from being blown away
- A relief mechanism built into the blow-off circuit which breaks the vacuum (extra pressure is relieved) realizes shorter blow-off time.

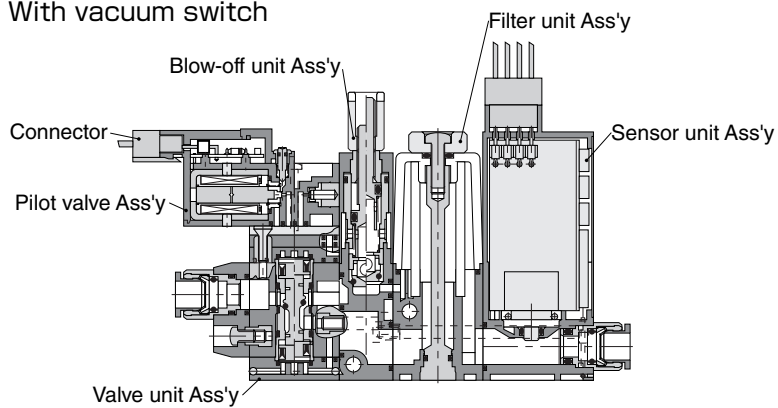


Construction

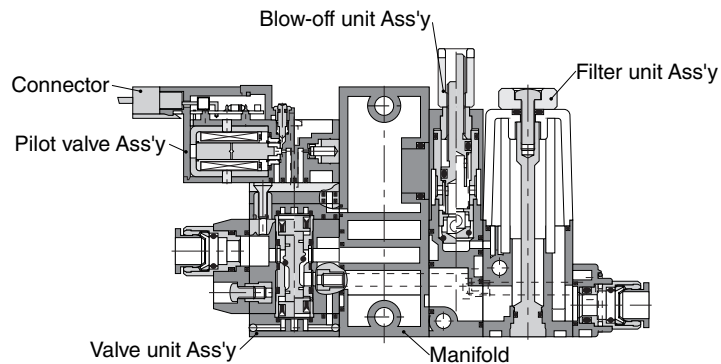
Stand-alone type, Without vacuum switch



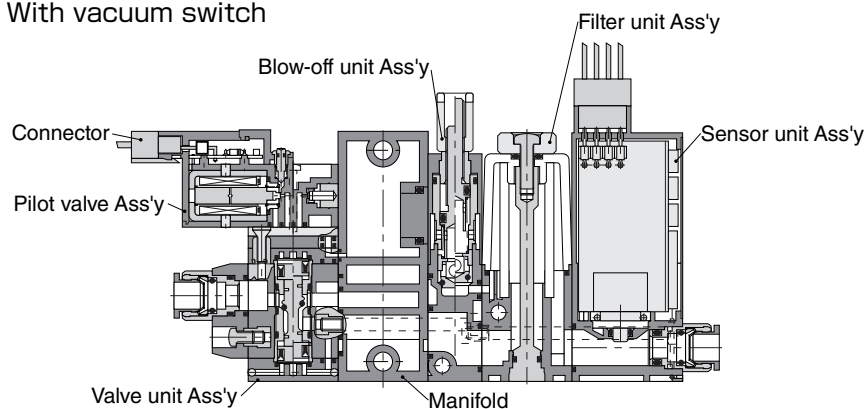
Stand-alone type, With vacuum switch



Manifold type, Without vacuum switch



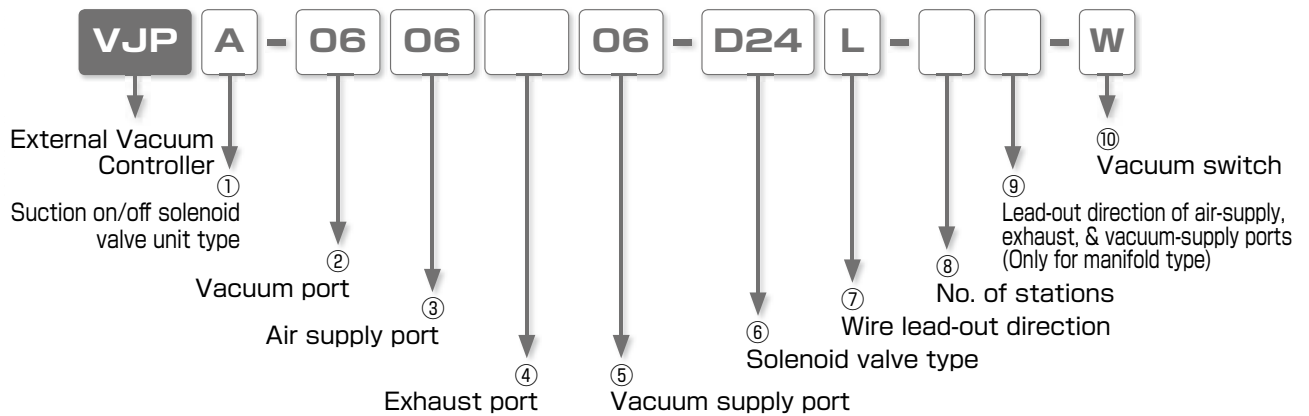
Manifold type, With vacuum switch



External Vacuum Controller Series

External Vacuum Controller VJP Series

Model Designation (Example)



① Suction on/off solenoid valve unit type

Code	Valve unit	Code	Valve unit	Code	Valve unit
A	Double solenoid type (Vacuum retention type)	B	Normally closed type	C	Normally open type
K	Combination of different valve unit type on a manifold (Fill in the details on Specification Order Form)				

② Vacuum port (Applicable tube size)

Code	04	06	08
Tube dia.(mm)	ø4	ø6	ø8

00 : When different vacuum ports are mixed on a manifold (Fill in the details on Specification Order Form)

③ Air supply port (Applicable tube size)

Code	04	06	08	10
Tube dia.(mm)	ø4(※1)	ø6	ø8(※2)	ø10(※2)

※ 1. Stand-alone type only.

※ 2. Manifold type only.

④ Exhaust port (Applicable tube size)

Code	06	08	10
Tube dia.(mm)	ø6	ø8	ø10(※1)

⑤ Vacuum supply port (Applicable tube size)

Code	04	06	08	10
Tube dia.(mm)	ø4(※1)	ø6	ø8(※2)	ø10(※2)

※ 1. Stand-alone type only.

※ 2. Manifold type only.

⑥ Solenoid valve type

Code	D24	A100
Voltage	DC24V	AC100V

⑦ Wire lead-out direction

Code	L	S	K
lead-out direction	Top	Side	Different lead-out directions are mixed on a manifold (Fill in the details on Specification Order Form)

⑧ No. of stations (Only for manifold type)

Code	02	03	04	05	06	07	08	09	10
No. of stations	2	3	4	5	6	7	8	9	10

⑨ Lead-out direction of air-supply, exhaust, & vacuum-supply ports (Only for manifold type)

Code	A	B
Lead-out direction	Vacuum port side	Solenoid valve side

⑩ Vacuum switch

Code	W	A	K	No code
Switch	2 switch output	1 switch output and 1 analog output	When different vacuum switches are mixed on a manifold (Fill in the details on Specification Order Form)	Without vacuum switch

External Vacuum Controller Series

External Vacuum Controller VJP Series

Order Example

1 External vacuum controller stand-alone type

VJP A - 04 04 06 - D24 L - W
① ② ③ ⑤ ⑥ ⑦ ⑩

- ① Suction on/off solenoid valve unit type :
A → Double solenoid type (Vacuum retention type)
- ② Vacuum port: **04** → ø4mm Push-In Fitting
- ③ Air supply port: **04** → ø4mm Push-In Fitting
- ⑤ Vacuum supply port: **06** → ø6mm Push-In Fitting
- ⑥ Solenoid valve type: **D24** → 24VDC
- ⑦ Wire lead-out direction: **L** → Top
- ⑩ Vacuum switch: **W** → 2 switch output

2 External vacuum controller manifold type

VJP A - 04 08 08 10 - D24 L - 04 A - W
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

- ① Suction on/off solenoid valve unit type :
A → Double solenoid type (Vacuum retention type)
- ② Vacuum port: **04** → ø4mm Push-In Fitting
- ③ Air supply port: **08** → ø8mm Push-In Fitting
- ④ Exhaust port: **08** → ø8mm Push-In Fitting
- ⑤ Vacuum supply port: **10** → ø10mm Push-In Fitting
- ⑥ Solenoid valve type: **D24** → 24VDC
- ⑦ Wire lead-out direction: **L** → Top
- ⑧ No. of stations: **04** → 4 stations
- ⑨ Lead-out direction of air-supply, exhaust, & vacuum-supply ports: **A** → Vacuum port side
- ⑩ Vacuum switch: **W** → 2 switch output

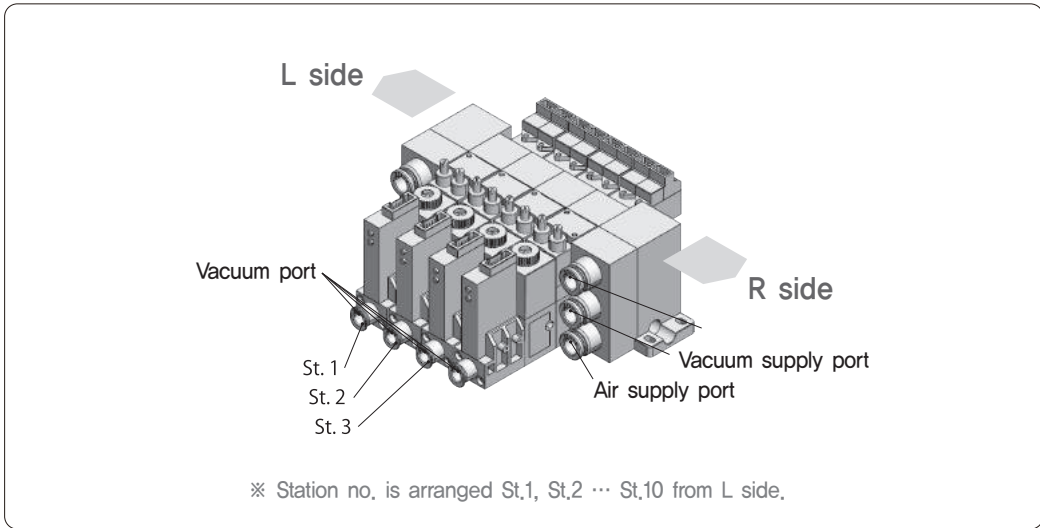
3 External vacuum controller manifold type

(When any one of mounting units has a different specification on a manifold)

VJP K - 00 10 10 10 - D24 L - 05 A - K
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

- ① Suction on/off solenoid valve unit type:
K → St.1, St.2 and St.3: Double solenoid type (Vacuum retention type)
St.4, St.5: Normally closed type
- ② Vacuum port: **00** → St.1, St.2 and St.3: ø4mm Push-In Fitting
St.4, St.5: ø8mm Push-In Fitting
- ③ Air supply port: **10** → ø10mm Push-In Fitting
- ④ Exhaust port: **10** → ø10mm Push-In Fitting
- ⑤ Vacuum supply port: **10** → ø10mm Push-In Fitting
- ⑥ Solenoid valve type: **D24** → 24VDC
- ⑦ Wire lead-out direction: **L** → Top
- ⑧ No. of stations: **05** → 5 stations
- ⑨ Lead-out direction of air-supply, exhaust, & vacuum-supply ports: **A** → Vacuum port side
- ⑩ Vacuum switch: **K** → St.1, St.2 and St.3: 2 switch output
St.4: Without vacuum switch
St.5: 1 switch output and analog output.

Manifold Type Example



■ Specification Order Form (In case of order example of 3 in the left page)

		Valve unit type ①	Vacuum port ②	Air supply port ③	Exhaust port ④	Vacuum supply port ⑤	Solenoid valve type ⑥	Wire lead-out direction ⑦	No. of stations ⑧	Lead-out direction of PS & EX ports ⑨	Vacuum switch ⑩
Manifold type	VJP	K	00	10	10	10	D24	L	05	A	K
Mounting unit code	L	St.1	A	06							W
	↑	St.2	St.1								
		St.3	St.1								
		St.4	B	08							
	St. no.	St.5	B	08							A
		St.6									
		St.7									
		St.8									
	↓	St.9									
		R	St.10								

※ When the top-mounting units for St. 1, St. 2 and St. 3 are of the same specifications as in the above example of specification order form, fill up the St. 1 space (uppermost) only, while entering "St. 1" in each of the St. 2 and St. 3 grids on the valve unit type column①.

External Vacuum Controller VJP Series Specification Order Form

To: PISCO KOREA PNEUMATIC CO., LTD

Manager

— Order in the following format —

Name:

Order No.:

• TEL :

• FAX :

• E-mail :

• Request EX-W PISCO Date :

• Quantity :

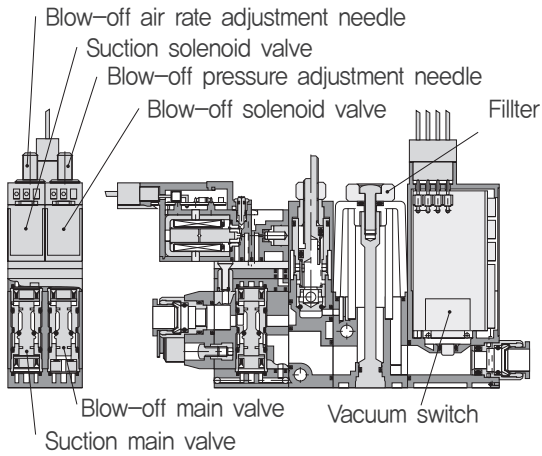
		Valve unit type ①	Vacuum port ②	Air supply port ③	Exhaust port ④	Vacuum supply port ⑤	Solenoid valve type ⑥	Wire lead-out direction ⑦	No. of stations ⑧	Lead-out direction of PS & EX ports ⑨	Vacuum switch ⑩
Manifold type	VJP										
Mounting unit code	L	St.1									
	↑	St.2									
		St.3									
		St.4									
	St. no.	St.5									
		St.6									
		St.7									
		St.8									
	↓	St.9									
		R	St.10								

※. Make a copy of this form and fill in it referring to the example in the previous page.
 ※. When the combination of mounting unit spec. is different, a separate Specification Order Form is required.

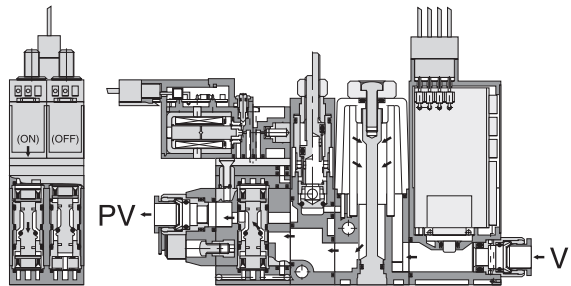
Mechanism of VJP

Example) VJPA-□□□-□□-□□-□ (Valve unit type: Double solenoid type (Vacuum retention type))

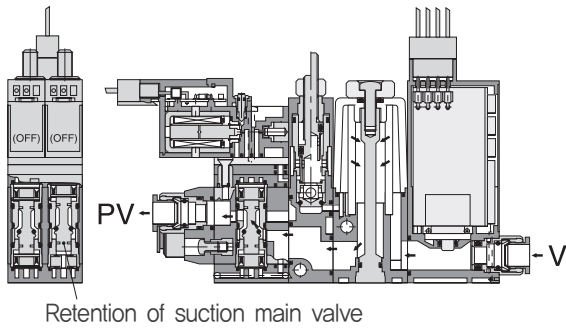
① At vacuum generation suspended



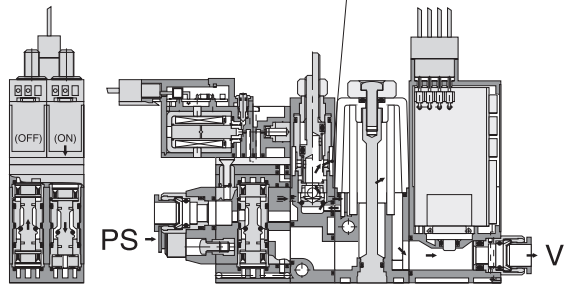
② At vacuum generating



③ At vacuum retention

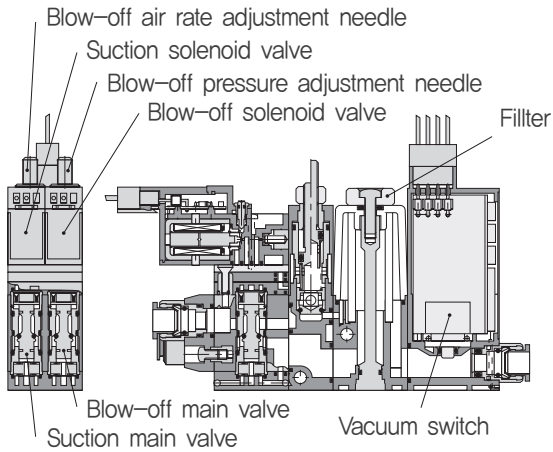


④ At blowing-off

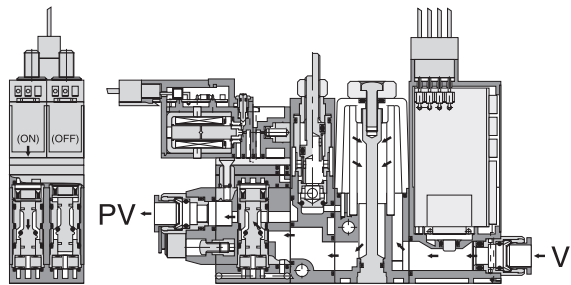


Example) VJPB-□□□-□□-□□-□ (Valve unit type: Normally closed)

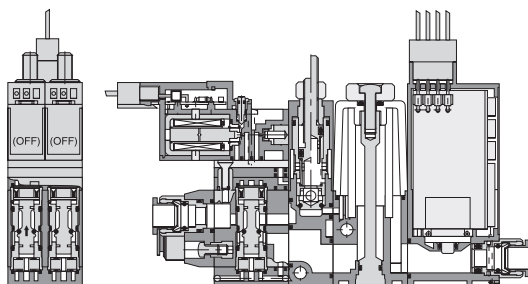
① At vacuum generation suspended



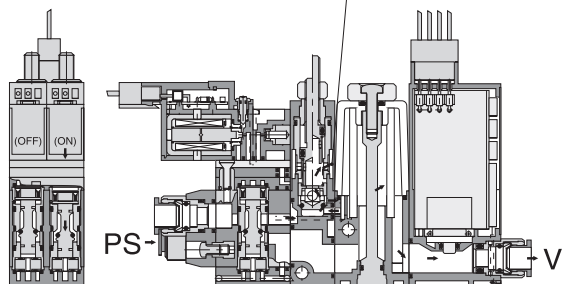
② At vacuum generating



③ At vacuum retention



④ At blowing-off



※ V: Vacuum air / PS: Supply air / PV: Vacuum supply air

Specification (Supply pressure)

Fluid medium	Air
Operating pressure range	0,3 ~ 0,7 MPa
Operating temp. range	5 ~ 50° C
Operating vacuum range	0 ~ -100kPa

Solenoid valve (Suction solenoid valve / Blow-off solenoid valve)

Pilot valves

Item	Suction solenoid valve		Blow-off solenoid valve	
Operating system	Direct operation			
Valve construction	Elastic seal, Poppet valve			
Rated voltage	DC24V	AC100V	DC24V	AC100V
Allowable voltage range	DC24V ±10%	AC100V ±10%	DC24V ±10%	AC100V ±10%
Surge protection circuit	Diode	Diode bridge	Diode	Diode bridge
Power consumption	1,2W (With LED)	1,5VA (With LED)	1,2W (With LED)	1,5VA (With LED)
Manual operation	Non-lock push-button type			
Operation indicator	Coil excitation: Red LED ON			
Wire connection method	Connector (Lead wire length: 500mm)			
	Red : DC24V Black : COM	Blue	Red : DC24V Black : COM	Blue

Switchover valve

Item	Suction main valve	Blow-off main valve
Operating system	Pneumatic operation by pilot valve	
Valve construction	Elastic seal, Poppet valve	
Proof pressure	1,05MPa	
Valve unit type	Double solenoid (retention)/ N.C. / N.O.	N.C.
Response time	50msec (Double solenoid type only)	-
Lubrication	Not required	
Effective sectional area	Air supply port (PV) size	∅ 4mm : 3,5mm ²
		∅ 6mm : 5mm ²
		1mm ²

Filter specification

Element material	PVF (Polyvinyl formal)	
Filtering capacity	10µm	
Filter area	1,130mm ²	
Replacement filter model code	Vacuum filter	VGFE 10
	Blow-off filter	VJFF

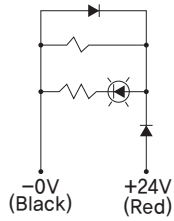
Blow-off function

Blow-off air rate	0 ~ 50 l /min[ANR] (Rated supply pressure: 0,5Mpa)
Valve structure	Elastic seal, Poppet valve
Relief pressure setting range	0,005 ~ 0,05MPa

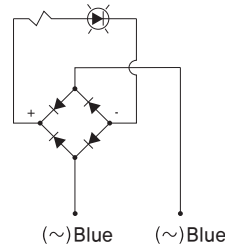
Vacuum switch with LED display

Output	2 switch output (-W)	1 switch output and 1 analog output (-A)
Current consumption	40mA max.	
Pressure detection	Diffused semiconduction pressure switch	
Operating pressure range	0 ~ -100kPa	
Pressure setting range	0 ~ -99kPa	
Proof pressure	0.2MPa	
Operating temp. range	0 ~ 50°C (No freezing)	
Operating humidity range	35 ~ 85%RH (No dew condensation)	
Rated voltage	DC12 ~ 24V ±10%, Ripple(P-P) 10% max.	
Protective structure	IEC standard IP40 equiv.	
No. of pressure setting	2	1
Operating accuracy	±3%F.S. max. (at Ta=25°C)	
Differential response	Fixed(2%F.S. max.)	Variable (about 0 ~ 15% of set value)
Switch output	NPN open collector output: 30V 80mA max. Residual voltage 0.8V max.	
Analog output	Output voltage	1 ~ 5V
	Zero-point voltage	1±0.1V
	Span voltage	4±0.1V
	Output current	1mA max. (load resistance 50kΩ max.)
	LIN/HYS	±0.5%F.S. max.
Response time	About 2m·sec. max	
Display	0 ~ -99kPa (2-digit red LED display)	
Display frequency	About 4 times / sec.	
Indication accuracy	±3%F.S. ±2 digit	
Sensor resolution	1 digit	
Operation indicator	SW1: Red LED turns ON, when pressure is above setting. SW2: Green LED turns ON, when pressure is above setting.	Red LED turns ON, when pressure is above setting.
Function	1. MODE switch (ME / S1 / S2)	1. MODE switch (ME / SW)
	2. S1 setting trimmer (2/3-rotation trimmer)	2. SW setting trimmer (2/3-rotation trimmer)
	3. S2 setting trimmer (2/3-rotation trimmer)	3. HYS setting trimmer (About 0-15% of setting value)

Circuit diagram (Solenoid valve)



24VDC Supply/Blow-off solenoid valve



24VDC Supply/Blow-off solenoid valve

VJP Series Weight List

① Stand-alone type

Type	Model code	Weight(g)	Remarks
With vacuum switch	VJP□-□□□□-□□-□	152.0	Vacuum port: φ 4, φ 6
	VJP□-8□□□□-□□-□	158.5	Vacuum port: φ 8
Without vacuum switch	VJP□-□□□□-□□	125.5	Vacuum port: φ 4, φ 6
	VJP□-8□□□□-□□	132.0	Vacuum port: φ 8

② Manifold intermediate block

	Weight(g)	Remarks
Manifold intermediate block	18.5	Per station

③ Manifold Side block

	Weight(g)	Remarks
External Vacuum Controller	106.0	Cartridge qty: 6pcs

④ Cartridge (Supply and Exhaust ports)

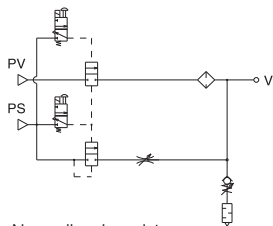
Model code	Weight(g)	Remarks
CJC14-06	11.5	For φ 6
CJC14-08	10.0	For φ 8
CJC14-10	13.0	For φ 10

■ Calculate the total weight by the following calculation formula.

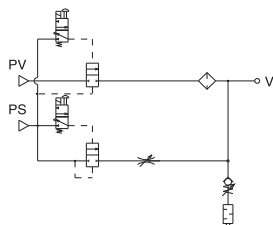
Total weight of manifold type = (①VJP Stand-alone unit + ②Manifold intermediate block) x station qty + ③Manifold Side block + ④Cartridge x qty)

Standard Size List

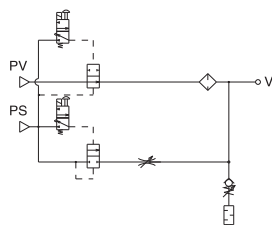
Wire lead-out direction: top or side
Double solenoid type



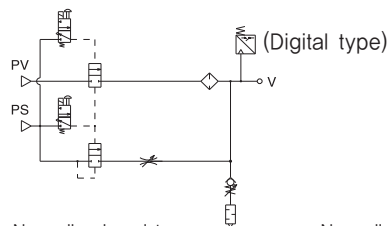
Normally closed type



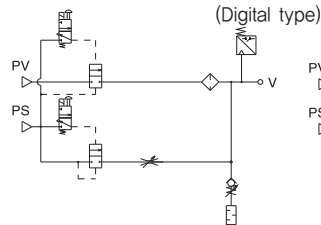
Normally open type



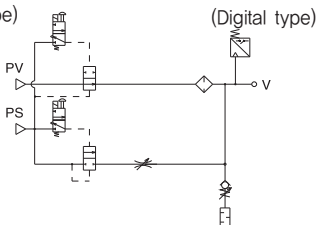
With vacuum switch, Wire lead-out direction: top or side
Double solenoid type



Normally closed type



Normally open type



Type	Page to refer	Vacuum port	Air supply port		Vacuum supply port
			4mm	6mm	
VJP	265	4mm	●	●	8mm
			●	●	With Silencer
		6mm	●	●	8mm
			●	●	With Silencer
8mm	●	●	8mm		
	●	●	With Silencer		

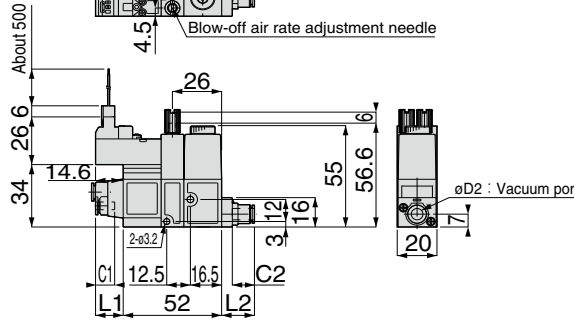
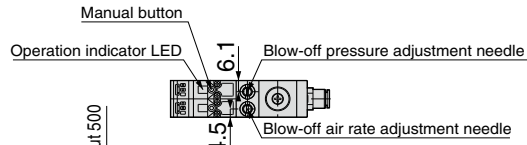
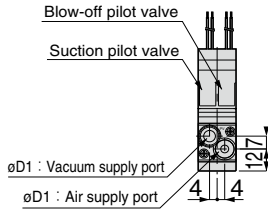
Type	Page to refer	Vacuum port	Air supply port		Vacuum supply port
			4mm	6mm	
VJP	266	4mm	●	●	8mm
			●	●	With Silencer
		6mm	●	●	8mm
			●	●	With Silencer
8mm	●	●	8mm		
	●	●	With Silencer		

VJP Wire lead-out direction: Top



Model code

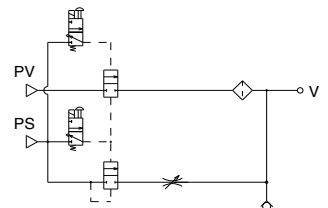
VJP□-□□□-□L



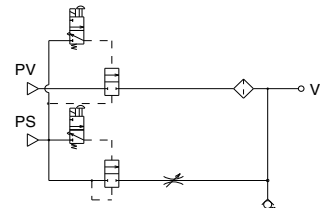
Unit: mm			Unit: mm		
Air supply port Applicable tube size: øD1	C1	L1	Vacuum port Applicable tube size: øD2	C2	L2
4	11.2	14.6	4	10.9	14.3
6	11.7	17.1	6	11.7	17.2
			8	21.7	25.8

Circuit diagram

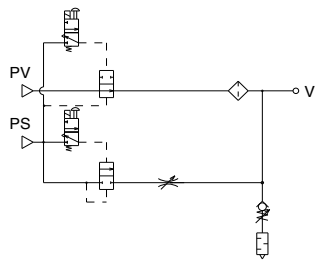
VJPA...(Double solenoid stand-alone type)



VJPB...(Normally closed stand-alone type)



VJPC...(Normally open stand-alone type)

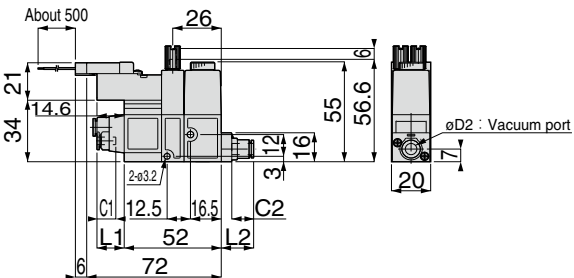
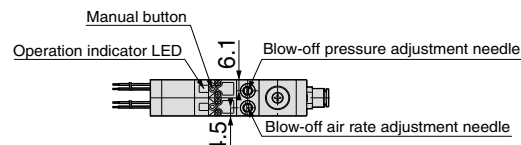
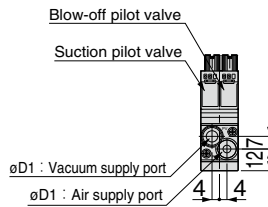


VJP Wire lead-out direction: Side



Model code

VJP□-□□□-□S



Unit: mm			Unit: mm		
Air supply port Applicable tube size: øD1	C1	L1	Vacuum port Applicable tube size: øD2	C2	L2
4	11.2	14.6	4	10.9	14.3
6	11.7	17.1	6	11.7	17.2
			8	21.7	25.8

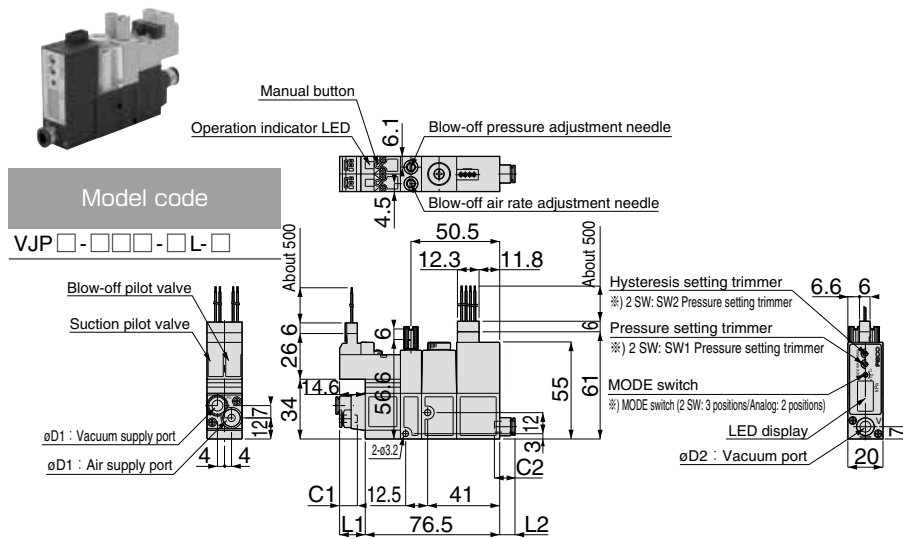
Circuit diagram

See the above circuit diagram for the one for this type.

External Vacuum Controller Series

External Vacuum Controller VJP Series

VJP With vacuum switch, Wire lead-out direction: Top



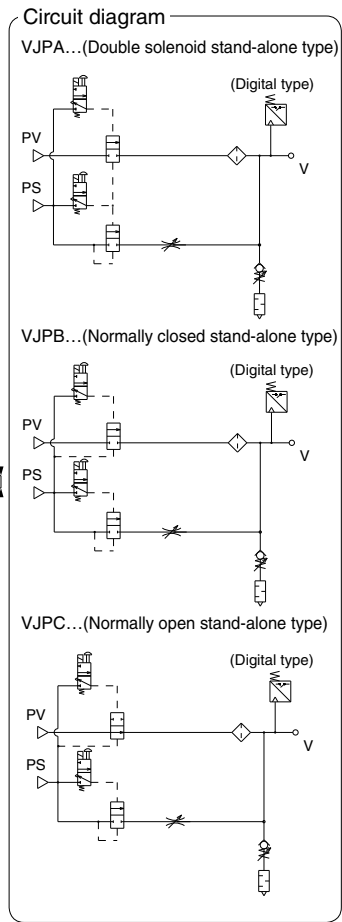
Model code
VJP □ - □ □ □ - □ L - □

Unit: mm

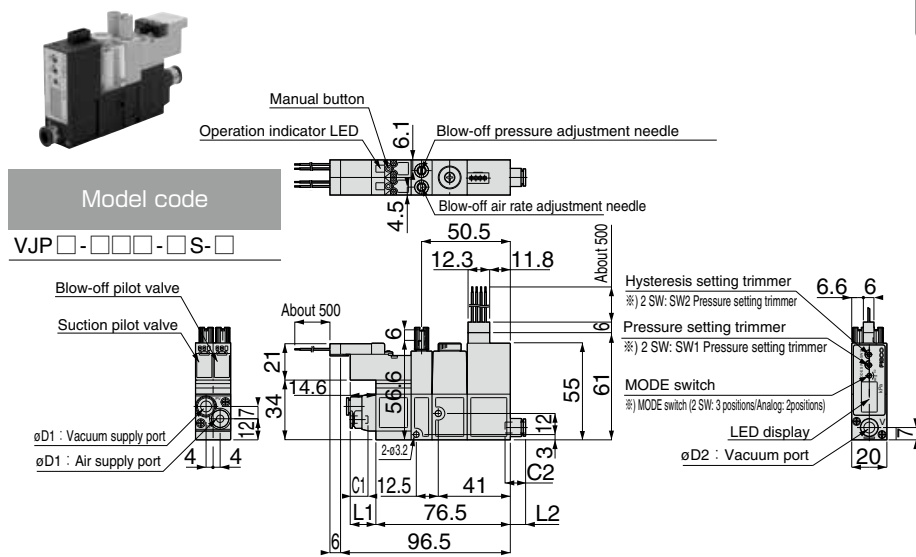
Air supply port Applicable tube size: ϕ D1	C1	L1
4	11.2	14.6
6	11.7	17.1

Unit: mm

Vacuum port Applicable tube size: ϕ D2	C2	L2
4	10.9	5.8
6	11.7	8.7
8	18.2	17.3



VJP With vacuum switch, Wire lead-out direction: Side



Model code
VJP □ - □ □ □ - □ S - □

Unit: mm

Air supply port Applicable tube size: ϕ D1	C1	L1
4	11.2	14.6
6	11.7	17.1

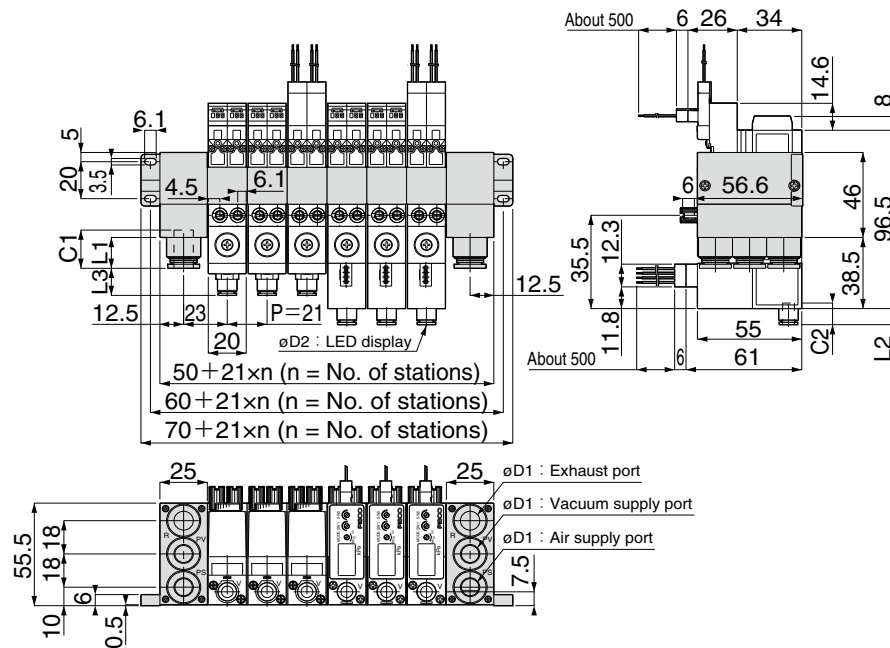
Unit: mm

Vacuum port Applicable tube size: ϕ D2	C2	L2
4	10.9	5.8
6	11.7	8.7
8	18.2	17.3

Circuit diagram
See the above circuit diagram for the one for this type.



**Manifold type,
Lead-out direction of PS & EX ports: Vacuum port side**



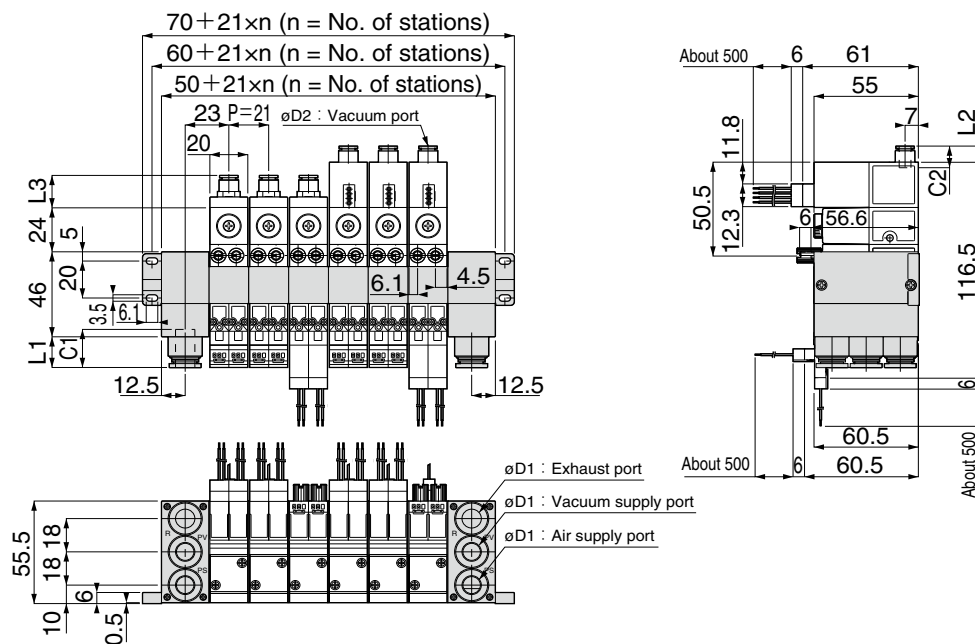
Model code
VJP□-□□□□-□□-□A-□

Air supply and exhaust ports Applicable tube size: øD1	Unit: mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

Vacuum port Applicable tube size: øD2	Unit: mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23.0



**Manifold type,
Lead-out direction of PS & EX ports: Solenoid valve side**



Model code
VJP□-□□□□-□□-□B-□

Air supply and exhaust ports Applicable tube size: øD1	Unit: mm	
	C1	L1
6	16.95	11.55
8	18.2	13.1
10	20.7	16.7

Vacuum port Applicable tube size: øD2	Unit: mm		
	C2	L2	L3
4	10.9	5.8	14.3
6	11.7	8.7	17.2
8	18.2	17.3	23.0

⚠ Safety Rules for Use

1. Safety Rules for Manifold Type

The increase of manifold station may cause troubles such as performance drop by a shortage of air supply and insufficient capability to exhaust, and exhaust air leak to the vacuum port. Allowable station numbers of simultaneous operation differs by nozzle size, vacuum performance, and other conditions. Please contact us for details.

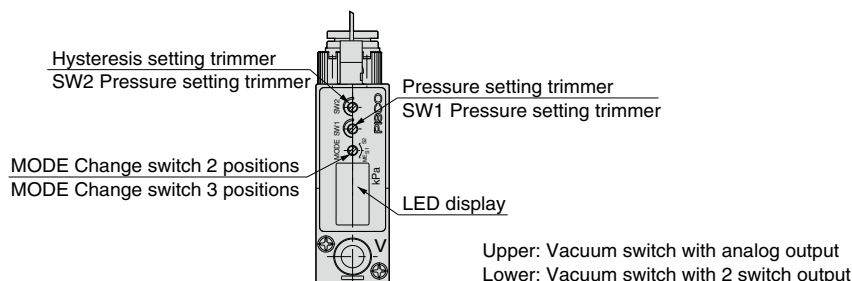
2. LED Digital Vacuum Pressure Sensor (Vacuum Switch)

(1) Pressure Setting Method

- ① Turn on the power (Make sure the correct wiring and apply DC power to the vacuum pressure sensor).
- ② -1 Set the indicator switch at Pressure Setting Mode (ME → S1 / S2 and SW)
- ② -2 (Vacuum switch with analog output)
Fully turn the hysteresis setting trimmer (HYS) in the counterclockwise direction in order to minimize the hysteresis adjustment in advance.
- ③ Adjust the pressure adjusting trimmer (S1 / S2 and SW) with a flathead screwdriver to set at the desired value.
- ④ Set the indicator switch at ME and apply pressure and check the actual operation.
(Vacuum switch with 2 switch output)
Switch output 1 (S1): Red LED turns ON at the pressure with more than the setting.
Switch output 2 (S2): Green LED turns ON at the pressure with more than the setting.
(Vacuum switch with analog output)
Switch output (SW): Red LED turns ON at the pressure with more than the setting.

(2) Differential response setting

- ① Differential response setting can be adjusted by the hysteresis setting trimmer (HYS).
- ② Differential response setting range is regulated within about 0-15% of the set value. Differential response setting becomes large when the trimmer is turned in the clockwise direction.
- ③ Differential response setting adjustment
Set the indicator switch at ME (pressure indication mode). Increase or decrease the supply pressure gradually around the set pressure value and read the value at ON/OFF of the switch LED. Differences in displayed values are taken as differential response.
- ④ Hysteresis adjustment is useful for the following cases:
 - Increase differential response when pressure pulsates with output repeatedly showing small on/off movements.
 - When an allowable range is to be set for the lowering of pressure.

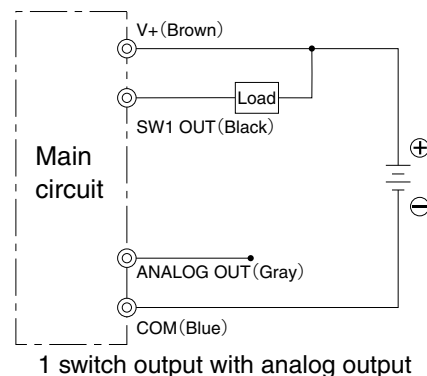
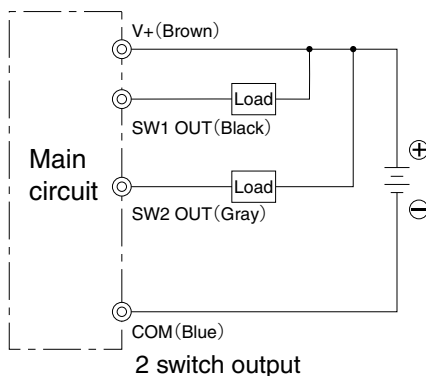


Safety Instructions for LED Digital Vacuum Pressure Sensor

- ① Do not use the vacuum switch in the environment or gasses containing corrosive substance. It may cause a sensor trouble.
- ② Wiring or ways by which noise or other disturbance is caused may cause a sensor trouble.
- ③ Since the sensors are not explosive-proof, do not use them in an inflammable or explosive gas, fluid or atmosphere.
- ④ Since the sensors are not drip / dust proof, do not use them in locations where they may be exposed to water or oil drops or dust.

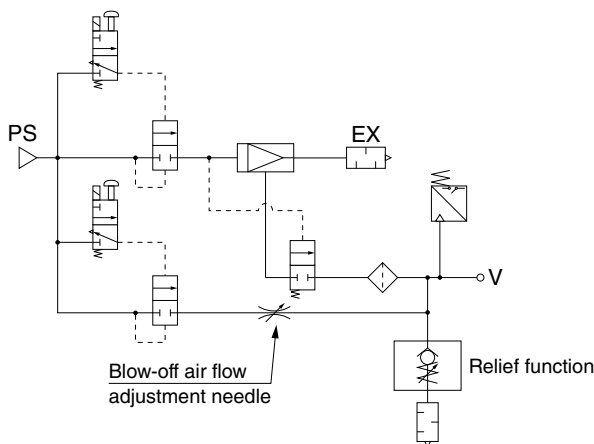
- ⑤ Do not use the sensor in an atmosphere exceeding the range of application temperature or causing heat as sensor malfunction may result.
- ⑥ Make sure to turn off the power before wiring. Check the wire colors, and do not short-circuit output terminals, power supply terminals and COM terminals when wiring. Short-circuits may cause a sensor trouble.
- ⑦ Do not give an excessive tensile strength and bending on a lead wire. Otherwise, breaking wire or damage on connector may be caused.
- ⑧ Do not keep applying 0.2MPa or more of positive pressure to the vacuum pressure sensor constantly during a blow-off air supply. Otherwise, damaging to the sensor may be caused.
- ⑨ When adjusting pressure and differential response, use a flathead screwdriver (accessory). Do not apply an excessive force on the trimmer and slowly turn it within its rotation limits. Otherwise, there is a risk of damaging the trimmer and the circuit board.
- ⑩ Supply a stable DC power to the product.
- ⑪ Add a surge absorption circuit to relays or solenoid valves, etc. which are to be connected with output terminal and source terminal. Do not apply a current exceeding 80mA.
- ⑫ Ground the FG terminal when using a unit power source such as switching current.
- ⑬ Output terminals (lead wire color: black and gray) and other terminals should not be short-circuited.
- ⑭ Avoid strong external impacts and excessive force to the sensor body.

(3) Wire connecting method

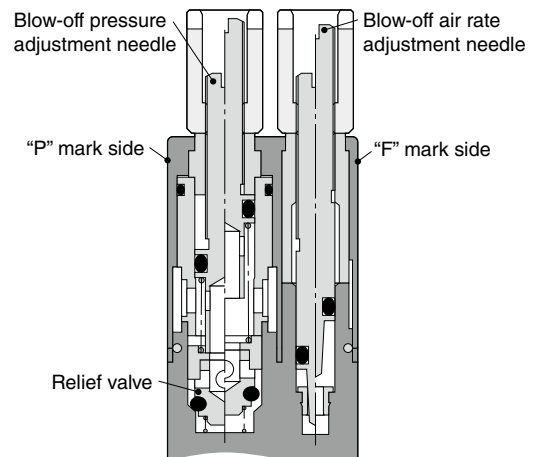


3. Adjusting Method of Relief Valve

(1) Circuit diagram / Construction



Circuit diagram (VJ □ □ B: Normally closed)



Construction of blow-off unit

- (2) Adjust and set the amount of pressure by referring to the following "Table 1. Open limit of the blow-off pressure relief needle".

Table 1. Open limit of the blow-off pressure adjustment needle

Vacuum characteristics	H : High-vacuum type				L : Large-flow type			E : High-vacuum at low air supply pressure type		
Nozzle bore (mm)	0.5	0.7	1.0	1.2	0.5	0.7	1.0	0.7	1.0	1.2
Max. open limit (rotations)	6.5	7.5	8.5	9.0	7.5	8.0	9.0	7.5	8.0	8.5

※ In case of External Vacuum Controller "VJP Series" (VJP□), open limit of of the blow-off pressure needle differs according to the performance of a vacuum pump. Adjust the needle within the condition under which the startup time and vacuum level are not affected.

※ Table 1 represents the referential values at rated supply pressure. Open limit of the blow-off pressure needle can change by factors such as supply pressure, vacuum characteristics and volume of piping at vacuum side. Values in table 1 are only reference valves.

- (3) Reconfirm if the vacuum characteristics and the evacuation time are not influenced and abnormal after setting the blow-off pressure.

※ Be noted that the evacuation time may become longer or normal final vacuum level may not be obtained when the pressure adjustment needle opening exceeds the limit indicated in Table 1. (Please refer to the following (5) Others.)

- (4) Adjust the desired blow-off air rate by blow-off air rate adjustment needle.

※ Increase the amount of blow-off air if shorter blow-off air time is required.

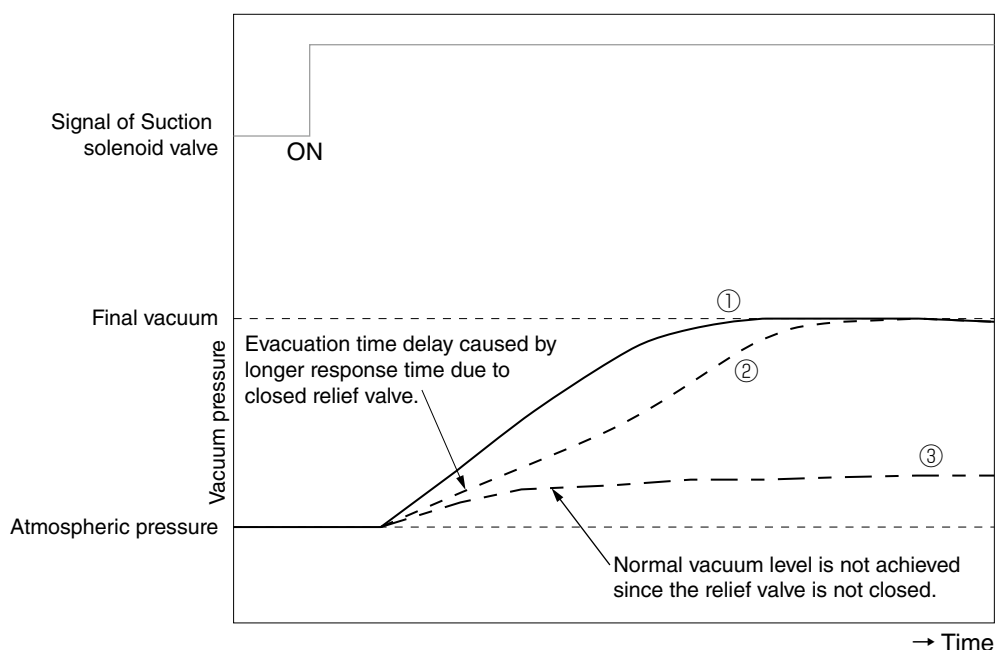
※ Decrease the amount of blow-off air flow in order to avoid a work from being blown away.

- (5) Others

1) When the pressure adjustment needle opening is adequate, a vacuum rising becomes like ① in the below graph.

2) If the pressure adjustment needle opening exceeds the limit, a vacuum rising becomes like ② in the below graph and evacuation time becomes longer.

3) If the pressure adjustment needle is opened more from ② of below graph, a vacuum rising becomes like ③ in the below graph and proper vacuum level cannot be obtained.

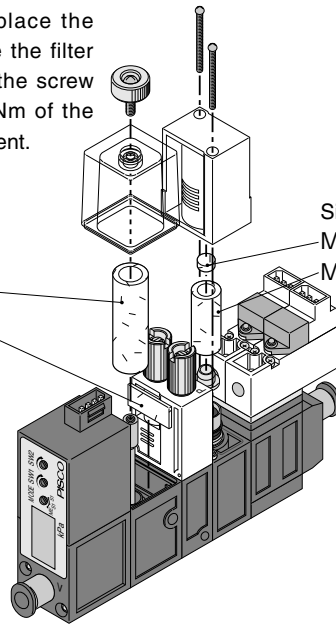


Vacuum Generator VJ

■ Replacement Element

- Remove the fixing screw to replace the filter element. Make sure to place the filter seal rubber properly and tighten the screw to fix the filter cover with 0.3-0.5Nm of the tightening torque after the replacement.

Vacuum filter element
Model code : VGFE10
Model code : VJFF



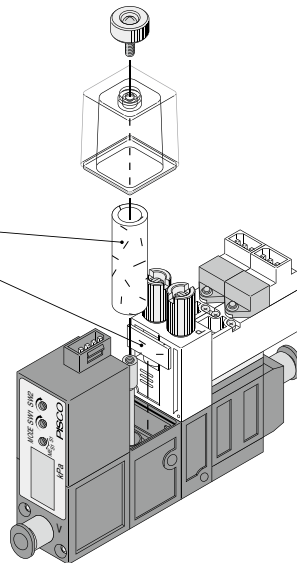
- How to detach silencer element
 - Remove 2 fixing screws by a proper screwdriver.
 - Detach the element cover and replace silencer elements (Model code: SEE0602 & VJEF).

Silencer element
Model code : SEE0602
Model code : VJEF

- How attach silencer elements
 - Tighten 2 fixing screws firmly with 0.18-0.2Nm of the tightening torque by a proper screwdriver.

■ Replacement of Element

Vacuum filter element
Model code : VGFE10
Model code : VJFF



PISCO®



บริษัท นานดีอินเตอร์เทรด จำกัด
NANDEE INTER-TRADE CO., LTD.

314,316,318,320,322 ซอยจันทน์ 32 ถนนจันทน์ แขวงทุ่งวัดดอน เขตสาทร กทม. 10120
Tel : 0-2675-8230 (Auto), 0-2675-8240 (Auto) Fax : 0-2212-1448, 0-2213-0360

LINE : [@nandeeintertrade](#)

f : [nandeeintertrade](#)

✉ : marketing@nandee.co.th

🌐 : www.nandee.co.th

