Ejector System/10.3 mm Width Compact Integrated Type Vacuum Ejector Unit

VSN Series

Integrated type vacuum ejector unit achieving high-speed and stable response
Large flow rate during vacuum breaking makes it ideal for fast pick & place operations

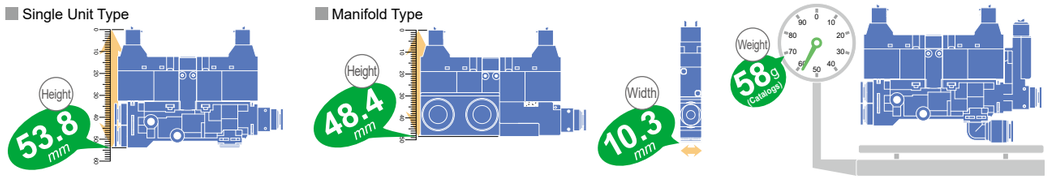
Vacuum Characteristic Variations

Vacuum Characteristics / Nozzle Diameter	Suction Flow Rate (L/min (ANR))		Air Consumption (L/min (ANR))		Ultimate Vacuum Pressure (-kPa)	
	H	E	H	E	H	E
0.4 mm		2		6		90.4
0.5 mm	7	3	11.5	8	90.4	90.4
0.6 mm	9.5	4.5	16	12	90.4	90.4

* Rated supply pressure; H, L⇒0.5 MPa, E⇒0.35 MPa

Ideal for customers with limited installation space

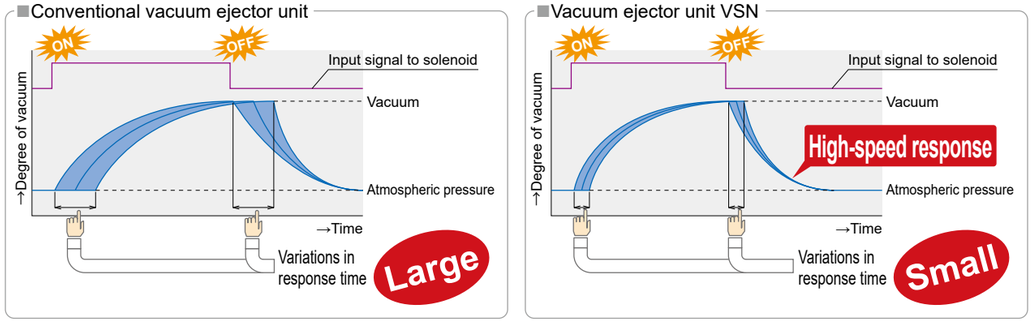
Compact and lightweight, especially with reduced product height.



* Excluding pressure sensor with LED display and centralized exhaust port section.

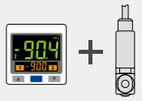
Achieves high-speed and stable responsE(ON/OFF ≤ 5 msec)

Direct acting valve adopted for main valve.



4 types of analog output pressure sensors available

- Analog Output Sensor for Negative Pressure
- Separate Digital Pressure Indicator + Analog Output Sensor for Negative Pressure
- Analog Output Sensor for Compound Pressure
- Separate Digital Pressure Indicator + Analog Output Sensor for Compound Pressure

	For Negative Pressure	For Compound Pressure
Analog Switch		
Separate Digital Pressure Indicator + Analog Switch		

Vacuum filter is external(purchased separately)

Eliminates the inconvenience of filter replacement work due to product miniaturization.

*This product does not have a built-in vacuum filter.
To use the product for a longer time, always use our company's vacuum filter (refer to the right) in the vacuum piping.

VSFU Compact Union Type	VSFJ Socket Type
	
Model No. / VSFU	Model No. / VSFJ
VSFU-2-44	VSFJ-44

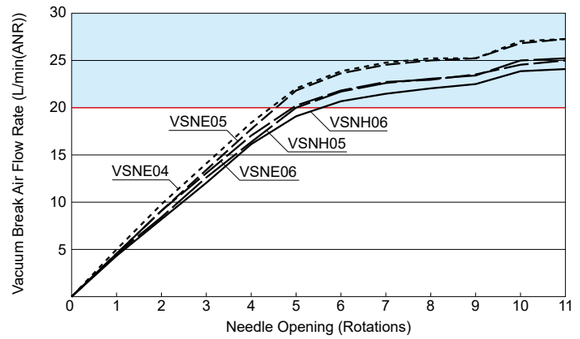
Pressure sensor lead wires are connectorized. Improved wiring work and maintainability. Four connector cable lengths available.

Optimal length can be selected from 500, 1,000, 2,000, 3,000 mm according to the installation location.

*Only for pressure sensor with analog output for negative pressure, pressure sensor with LED display. Pressure sensor with analog output for compound pressure is grommet type.

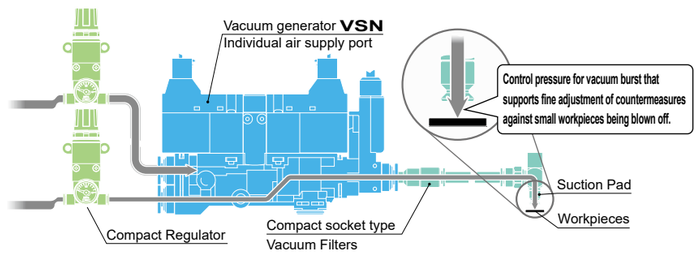
Vacuum break air flow rate ensures 20 L/min

Supply Pressure: At 0.5 MPa

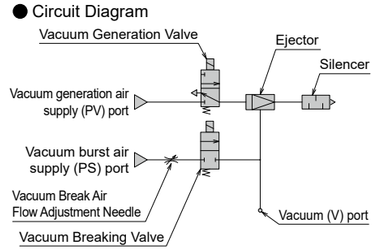


Gently release small workpieces during vacuum breaking

Independent vacuum break air supply port(option)
Therefore, in addition to conventional flow rate adjustment, pressure adjustment is possible with an external regulator, facilitating fine adjustment of vacuum break air.



● Circuit Diagram



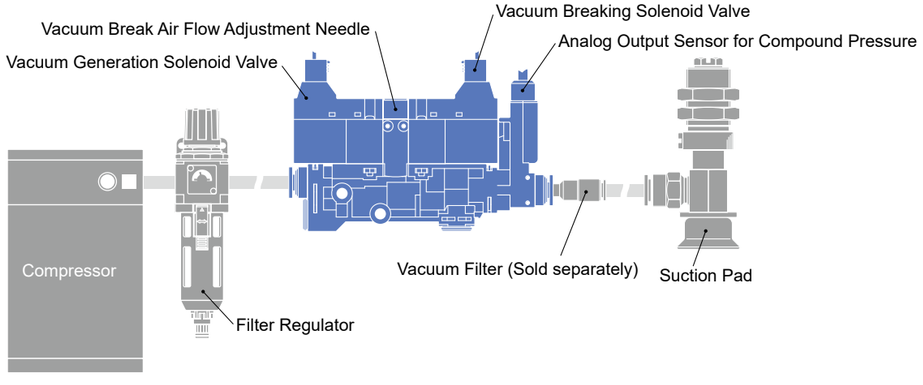
Type with common supply port also available in lineup

*Supply port: Air supply port for vacuum generation and Common vacuum burst air supply port.

Compliant with Global Standards

CE UKCA RoHS

Example Circuit Usage



Model No. Notation

- 10.3 mm Width Compact Vacuum Unit (Ejector System Compatible-type)
- Vacuum Ejector Unit Single Unit Type

VSN	-	H	05	-	4	4	4	S	-	3	-	V1C1
Model No.		❶ Vacuum Characteristics	❷ Nozzle Diameter		❸ Vacuum Port (V)	❹ Vacuum Generation Air Supply Port (PV)	❺ Vacuum Break Air Supply Port (PS)	❻ Exhaust Port (EX)		❼ Solenoid Valve Voltage		❽ Vacuum Pressure Switch Specifications

❶ Vacuum Characteristics

Code	Content
H	High Vacuum/Medium Flow Type
E	High Vacuum/Low Flow Type

Note) The combination 'H04' for items ❶ and ❷ cannot be selected.

❷ Nozzle Diameter

Code	Content
04	ø0.4
05	*0.5
06	ø0.6

Note) The combination 'H04' for items ❶ and ❷ cannot be selected.

❸ Vacuum Port (V)

Code	Content
4	ø4 Push-in straight fitting
4L	ø4 Push-in elbow fitting

❹ Vacuum Generation Air Supply Port (PV)

Code	Content
4	ø4 Push-in straight fitting

❺ Vacuum Break Air Supply Port (PS)

Code	Content
4	ø4 Push-in straight fitting
N	Common Air for Vacuum Generation / Vacuum Breaking

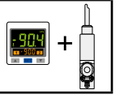
❻ Exhaust Port (EX)

Code	Content
S	Atmospheric Release with Silencer
J	ø6 Push-in fitting centralized exhaust

❼ Solenoid Valve Voltage

Code	Content
3	24 VDC

❽ Vacuum Pressure Switch Specifications

Type	Lead Wire (mm)	Separate LED Indicator	Code	Diagram
Without Vacuum Pressure Switch			Blank	
Analog Output for Negative Pressure	500		V1C0	
	1,000		V1C1	
	2,000		V1C2	
	3,000		V1C3	
	500	●	V2C0	
	1,000	●	V2C1	
	2,000	●	V2C2	
	3,000	●	V2C3	
Analog Output for Compound Pressure Grommet Lead Wire	3,000		R1	
	3,000	●	R2	

Maintenance Part Model No.

*For details of the maintenance parts, P. 236.

●Silencer Element

VSN - E
Model No.

●Dedicated bracket(common to VSN and VSNP)

VSN - B

Option Single Item Model No.

●Separate Digital Indicator

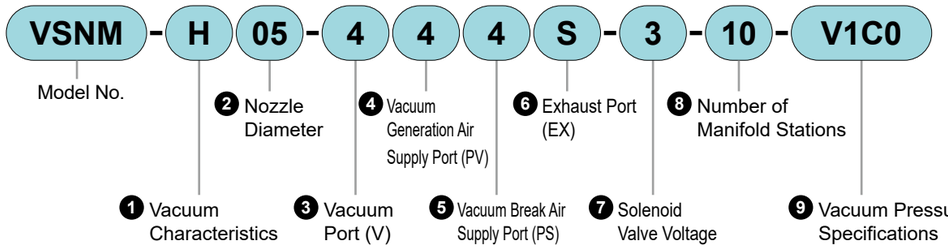
VSN - SED - 31N
Model No.

●Sensor connection connector(e-con)

VSN - EC
Model No.

Model No. Notation

- 10.3 mm Width Compact Vacuum Unit (Ejector System Compatible-type)
- Vacuum Ejector Unit Manifold Type



In manifold types, exhaust air may flow around to non-operating ejectors and be output from the vacuum port.
If exhaust air flow-around affects usage, please consult us.

❶ Vacuum Characteristics

Code	Content
H	High Vacuum/Medium Flow Type
E	High Vacuum/Low Flow Type
Z	For mixed specifications(Provide details in the specification sheet.)

Note1) The combination 'H04' for items ❶ and ❷ cannot be selected.
Note2) For mixed specifications, be sure to fill out the "Mixed Manifold Specification Sheet". For details, P. 240, 241.

❷ Nozzle Diameter

Code	Content
04	ø0.4
05	*0.5
06	ø0.6
00	For mixed specifications(Provide details in the specification sheet.)

Note1) The combination 'H04' for items ❶ and ❷ cannot be selected.
Note2) For mixed specifications, be sure to fill out the "Mixed Manifold Specification Sheet". For details, P. 240, 241.

❸ Vacuum Port (V)

Code	Content
4	ø4 Push-in straight fitting
4L	ø4 Push-in elbow fitting
CX	For mixed specifications(Provide details in the specification sheet.)

Note1) For mixed specifications, be sure to fill out the "Mixed Manifold Specification Sheet". For details, P. 240, 241.

❹ Vacuum Generation Air Supply Port (PV)

Shape	Size	Position	Code	Diagram
Straight Fitting	ø4	R Side Only	**4R**	
	ø6		**6R**	
	ø8		**8R**	
	ø4	Both Sides	**4**	
	ø6		**6**	
	ø8		**8**	
	ø4	L Side Only	**4H**	
	ø6		**6H**	
	ø8		**8H**	
Elbow Fitting	ø4	R Side Only	**4LR**	
	ø6		**6LR**	
	ø8		**8LR**	
	ø4	Both Sides	**4L**	
	ø6		**6L**	
	ø8		**8L**	
	ø4	L Side Only	**4LH**	
	ø6		**6LH**	
	ø8		**8LH**	

❺ Vacuum Break Air Supply Port (PS)

Shape	Size	Position	Code	Diagram
Straight Fitting	ø4	R Side Only	**4R**	
	ø6		**6R**	
	ø8		**8R**	
	ø4	Both Sides	**4**	
	ø6		**6**	
	ø8		**8**	
	ø4	L Side Only	**4H**	
	ø6		**6H**	
	ø8		**8H**	
Elbow Fitting	ø4	R Side Only	**4LR**	
	ø6		**6LR**	
	ø8		**8LR**	
	ø4	Both Sides	**4L**	
	ø6		**6L**	
	ø8		**8L**	
	ø4	L Side Only	**4LH**	
	ø6		**6LH**	
	ø8		**8LH**	
Common for Vacuum Generation / Vacuum Breaking			**N**	

❻ Exhaust Port (EX)

Code	Content
S	Atmospheric Release with Silencer

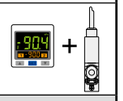
❼ Solenoid Valve Voltage

Code	Content
3	24 VDC

❽ Number of Manifold Stations

Code	Content
2	2 stations
to	to
10	10 stations

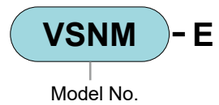
❾ Vacuum Pressure Switch Specifications

Type	Lead Wire (mm)	Separate LED Indicator	Code	Diagram
Without Vacuum Pressure Switch			**Blank**	
Analog Output for Negative Pressure	500		**V1C0**	
	1,000		**V1C1**	
	2,000		**V1C2**	
	3,000		**V1C3**	
	500	●	**V2C0**	
	1,000	●	**V2C1**	
	2,000	●	**V2C2**	
	3,000	●	**V2C3**	
Analog Output for Compound Pressure Grommet Lead Wire	3,000		**R1**	
	3,000	●	**R2**	
For Mixed Specifications *Provide details in the specification sheet.			**Z**	

Note) For mixed specifications, be sure to fill out the "Mixed Manifold Specification Sheet". For details, P. 240, 241.

Maintenance Part Model No. * For details on the maintenance parts, P. 236.

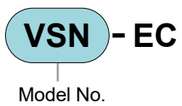
●Spare silencer element



Option Single Item Model No.

●Separate Digital Indicator

●Sensor connection connector(e-con)



Specifications

Item		Vacuum Ejector Unit VSN
Operating Fluid		Air
Operating Pressure	MPa	0 to 0.55
Ambient Temperature/Fluid Temperature	°C	5 to 50
Operating Humidity		35 to 85% RH (No condensation)
Protection Structure		Equivalent to IEC Standard IP40
Vibration/Shock Resistance	(m/s²)	≤ 50 / ≤ 150

Ejector Characteristics

Model No.	Nozzle Diameter (mm)	Rated Supply Pressure (MPa)	Ultimate Vacuum Pressure (-kPa)	Suction Flow Rate (L/min [ANR])	Air Consumption (L/min [ANR])
VSN-E04	0.4	0.35	90.4	2	6
VSN-H05	0.5	0.5		7	11.5
VSN-E05		0.35		3	8
VSN-H06	0.6	0.5		9.5	16
VSN-E06		0.35		4.5	12

Valve Specifications

Item \ Unit		Vacuum Ejector Unit VSN	
		Vacuum Generation Valve	Vacuum Breaking Valve
Valve-type and Operation Method		Direct acting poppet valve	
Rated Voltage	V	24 VDC	
Voltage Fluctuation Range		±10%	
Surge Suppressor		Built-in Surge Suppressor	
Power consumption	W	Startup: 2.2 Holding: 0.6 (Built-in power saving circuit)	
Operation Indicator		Green LED	
Operating Pressure	MPa	0 to 0.55	0 to 0.55
Valve-type		Normally Closed Type	
Response Time(*1)	ms	Both Vacuum Generation (OFF→ON) / Vacuum Stop (ON→OFF) ≤ 5	
Wiring Method and Lead Wire		Connector type: 500 mm	
Length		Red Lead Wire: +24 VDC, Black Lead Wire: -0 V	

Note1) Response time is the time until pressure change is detected at the vacuum port when rated pressure and rated voltage are supplied. Vacuum reaching time at the piping end(workpiece) and vacuum breaking time vary depending on conditions such as ejector characteristics, volume(vacuum piping length), and vacuum breaking flow rate.

Vacuum Breaking Function

Item		
Break Air Flow Rate	L/min (ANR)	0 to 20 (at 0.5 MPa supply)

Note) Variable by vacuum break air flow adjustment needle.

Vacuum Pressure Switch Specifications

Item			Negative Pressure Specification(-V1□)	Compound Pressure Specification(-R1)
Power Supply Voltage		V	DC 10.8 to 30 (incl. ripple)	
Current Consumption		mA	≤ 20	
Pressure Sensing Element			Diffused Semiconductor Pressure Sensor	
Working pressure		kPa	-100 to 0	-100 to 300
Proof pressure		kPa	200	600
Storage Temperature		°C	-20 to 70 (atmospheric pressure, humidity: 65% RH or less)	
Operating Temperature		°C	-10 to 60 (No condensation)	
Operating Humidity			35 to 85% RH (No condensation)	
Protection Structure			Equivalent to IEC Standard IP40	
Analog Output	Output Voltage	V	1 to 5	
	Zero Point Voltage	V	1±0.04 (= at atmospheric pressure)	1±0.1 (= at -100 kPa)
	Maximum Pressure Point Voltage	V	4.6±0.04 (= at -100 kPa)	5±0.1 (= at 300 kPa)
	Linearity/Hysteresis		≤ ±0.5% F.S.(at Ta = 25°C)	
	Temperature Characteristics		≤ ±2% F.S.(0 to 50°C, Ta = 25°C)	
	Output Current	mA	0.195 or less (load resistance: 10 kΩ or less)	1 or less (load resistance: 5 kΩ or less)
	Output impedance	kΩ	1	-

Separate Digital Indicator Specifications(-V2□, -R2)

Item			Separate Digital Indicator
Power Supply Voltage		V	DC 10.8 to 26.4
Current Consumption		mA	40 max.(No load)
Repeatability			≤ ±0.1% F.S. ±1 digit
Differential			Adjustable
Response time		ms	2.5 or less (malfunction prevention function: 25, 100, 250, 500, 1000, 1500 selected)
Output Short-circuit Protection			Yes
Pressure Display	Display Unit		kPa
	Display Magnification Resolution		0.1
	Display Update Rate		5 times/sec
	Display Accuracy		≤ ±1% F.S. ±1 digit
	Operation Indicator Light		Orange 1 & 2 Indicator Light
	Digital Display		Main display: 2 colors(red, green), sub-display: Orange
Sensor Input Specifications	Voltage input signal	V	1 to 5
	Input impedance	MΩ	1
Switch Output	Number of Output Points		2-point Output (OUT1, OUT2)
	Output Method		NPN Open Collector
	Switch Rating		30 VDC 125 mA max.
	Internal Voltage Drop	V	≤ 1.5
Analog Output	Output Voltage	V	1 to 5 ≤ ±2.5% F.S.
	Linearity		≤ ±1% F.S.
	Output impedance	KΩ	1
Environmental Resistance	Protection Structure		Equivalent to IEC Standard IP40
	Storage Temperature	°C	-10 to 60 (No condensation or freezing)
	Operating Temperature	°C	0 to 50
	Operating Humidity		35 to 85% RH(No freezing)
	Dielectric Strength		1000 VAC 1 minute (Between lead wire and case)
	Insulation Resistance		≥ 50 MΩ (500 VDC) (Between lead wire and case)
	Vibration Resistance		Double amplitude 1.5 mm or 100 m/s², 10 to 55 Hz, 2 hours in each X, Y, Z direction
	Shock Resistance		100 m/s², 2 hours in each X, Y, Z direction
Temperature Characteristics			±0.5%F.S. (0 to 50°C, base temperature: 25°C)

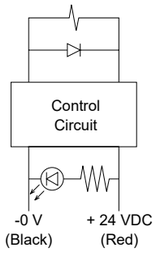
Weight Table

Model No.	Unit Contents	Weight (g)
VSN-□□-□□□S-3-□	Single unit type, individual air supply port, atmospheric release, with sensor	56
VSN-□□-□□□S-3	Single unit type, individual air supply port, atmospheric release, without sensor	53
VSN-□□-□□□J-3-□	Single unit type, individual air supply port, centralized exhaust, with sensor	58
VSN-□□-□□□J-3	Single unit type, individual air supply port, centralized exhaust, without sensor	55
VSN-□□-□□NS-3-□	Single unit type, common air supply port, atmospheric release, with sensor	54
VSN-□□-□□NS-3	Single unit type, common air supply port, atmospheric release, without sensor	51
VSN-□□-□□NJ-3-□	Single unit type, common air supply port, centralized exhaust, with sensor	56
VSN-□□-□□NJ-3	Single unit type, common air supply port, centralized exhaust, without sensor	53
VSNM-□□-□□NS-3-2-□	Manifold type, individual/common air supply port, with sensor	171
VSNM-□□-□□NS-3-2	Manifold type, individual/common air supply port, without sensor	164

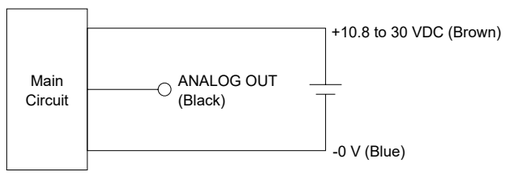
■ For the manifold, with each station increase, a sensor equipped unit can be used for each station increase: 47 g, with unit without sensor for 1 station: 43 g heavier. Example: The weight of vacuum ejector unit, with sensor, quadruple manifold is 171 +(2 × 47) = 265 g→2. Weight of manifold: Weight of 2 units with sensor for 171 g: Add 94 g.

Electrical Circuit Diagram

● Solenoid valve



● vacuum pressure switch



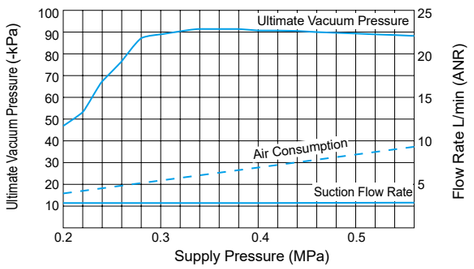
MEMO

Vacuum Components
Ejector System
VSY
VSH
VSU
VSB
VSC
VSG
VSK/ VSKM
VSJ/ VSJM
VSN/ VSNM
VSX/ VSXM
VSQ
VSZM
Ending

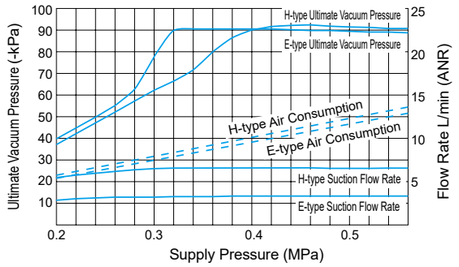
Vacuum Characteristics

Supply Pressure - Ultimate Vacuum Pressure, Suction Flow Rate, Consumption Flow Rate

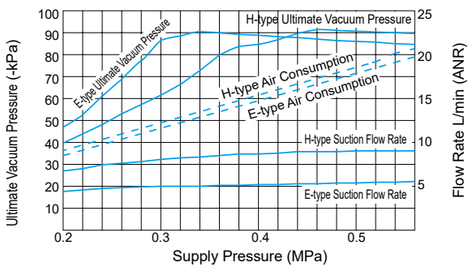
● VSN-E04



● VSN-H05, VSN-E05



● VSN-H06, VSN-E06

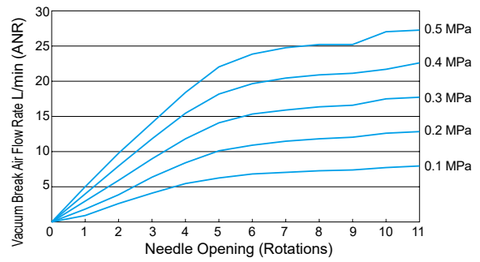


1. The supply pressure in the characteristics above is during vacuum generation.
2. Abnormal noise (gurgling sound) may occur at a supply pressure slightly below the peak ultimate vacuum pressure in the characteristics above. In this state with abnormal noise, characteristics are unstable and noise level increases. Also, it may affect sensors, etc., causing trouble, so reset the supply pressure.
   (ex1. Source pressure is 0.5MPa with the H-type vacuum ejector. During vacuum ejector operation, supply pressure drops to 0.43 MPa due to pressure drop, and abnormal noise is generated. → Reset the supply pressure during ejector operation to 0.5 MPa.)
3. Select piping or equipment using an effective cross-sectional area approximately 3 times the nozzle diameter cross-sectional area as a guideline. If sufficient supply air flow rate is not secured, satisfactory vacuum characteristics cannot be obtained.
   (Gurgling sound occurs even at the set pressure. (Insufficient suction flow rate, failure to reach ultimate vacuum level, etc.)
   (ex2. Abnormal noise occurs even when pressure is 0.5MPa with H-type vacuum ejector during vacuum ejector operation. → Insufficient supply air flow rate. (Supply air flow rate is restricted before the vacuum ejector due to piping resistance, etc., preventing the supply air flow rate required for satisfactory characteristics from being obtained.) → Select a pipe components that can secure the required effective cross-sectional area.))
   (ex3. When using a vacuum ejector with 0.6 mm nozzle diameter, carry out piping and components selection so that the effective cross-sectional area of 0.9 mm² or more is secured by using 0.32 xπ=0.282 mm² x3=0.84 mm² cross-sectional area.)

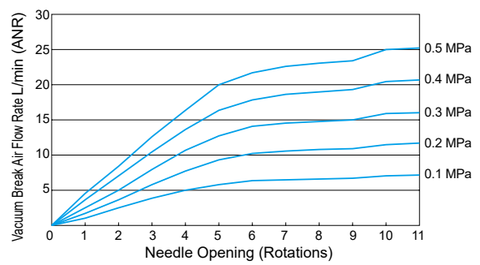
Vacuum Characteristics

Vacuum Break Air Flow Characteristics

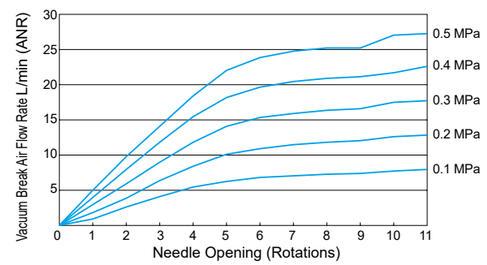
● VSN-E04



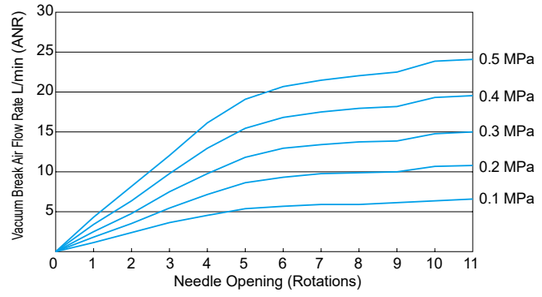
● VSN-H05



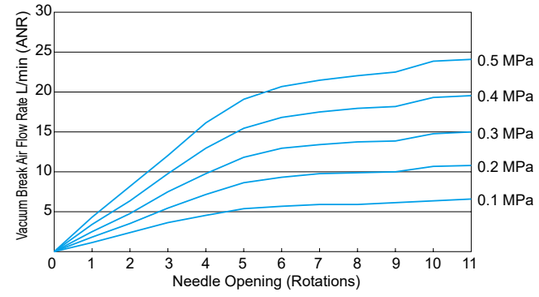
● VSN-E05



● VSN-H06

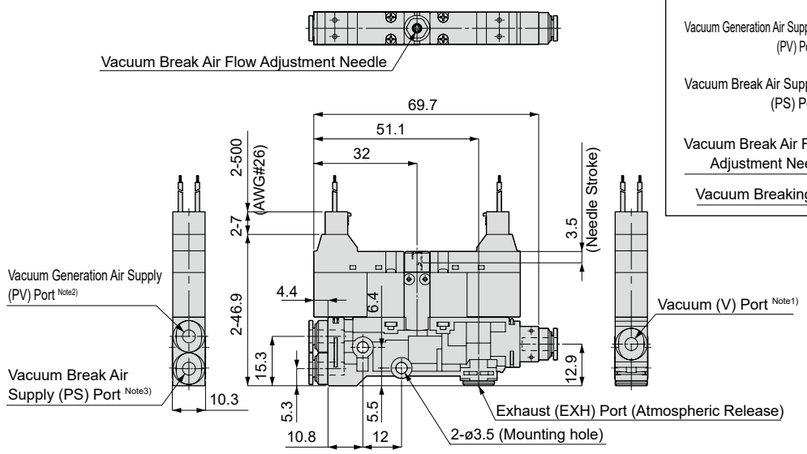


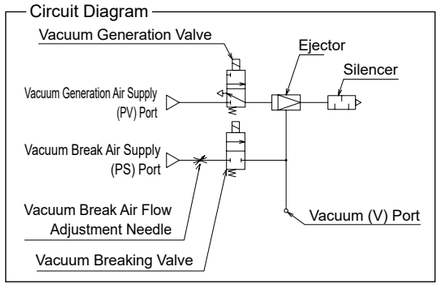
● VSN-E06



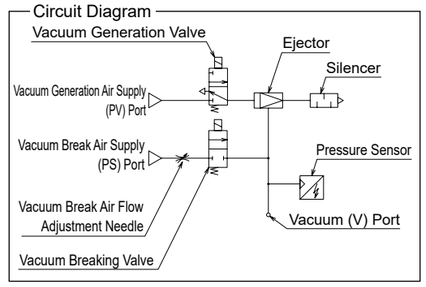
External Dimensions Diagram (Single Unit Type)

● Individual air supply port, atmospheric release, without vacuum pressure switch
• VSN-□□-□□□S-3

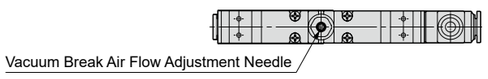


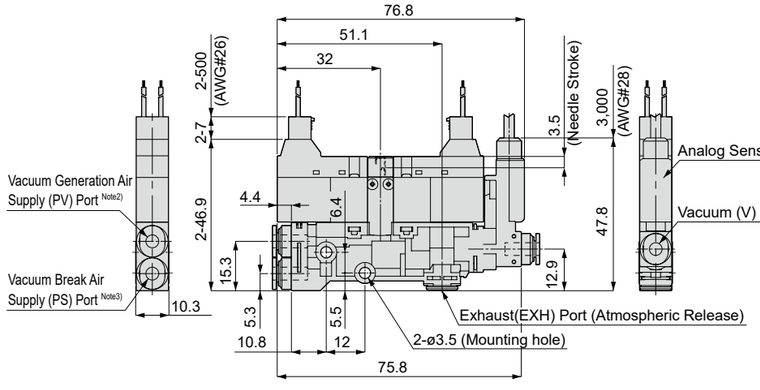


● Individual air supply port, atmospheric release, with vacuum pressure switch
• VSN-□□-□□□S-3-V□□□/R□

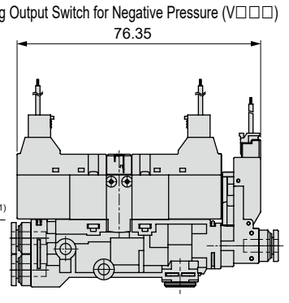


• Analog Output Switch for Compound Pressure (R□)





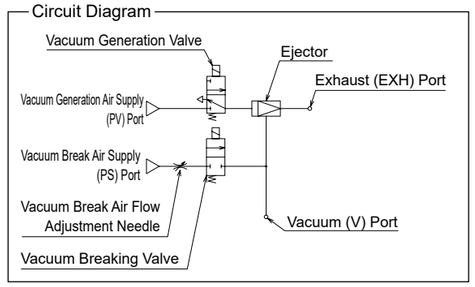
• Analog Output Switch for Negative Pressure (V□□□)

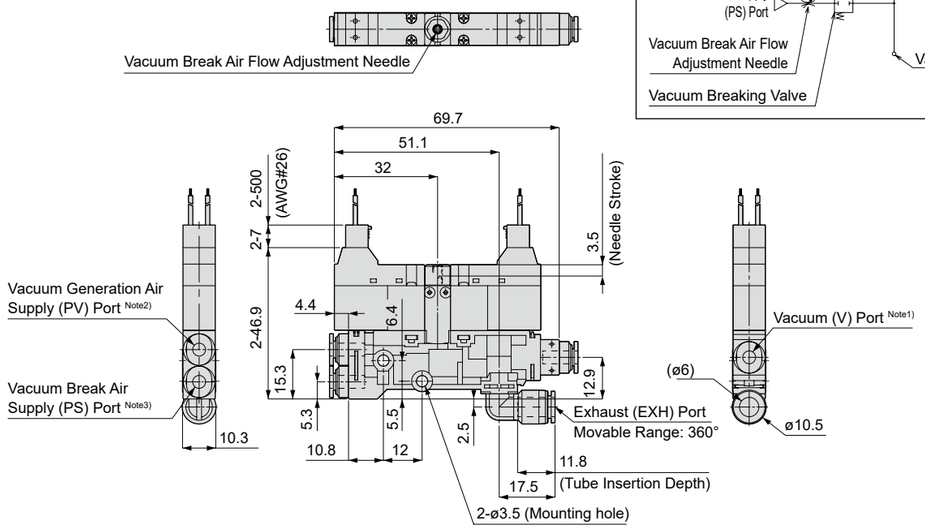


Note1) For vacuum (V) port dimensions, P. 230 Refer to Table 1 on .
Note2) For dimensions of the air supply (PV) port for vacuum generation, P. 230 Refer to Table 2 on the .
Note3) For vacuum burst air supply (PS) port dimensions, P. 230 Refer to Table 2 on the .

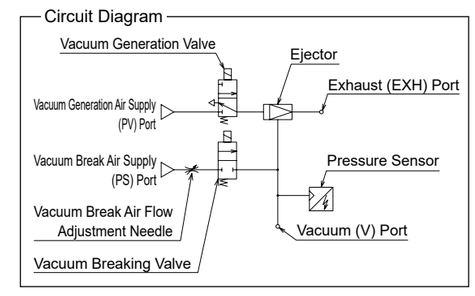
External Dimensions Diagram (Single Unit Type)

● Individual air supply port, common exhaust, without vacuum pressure switch
• VSN-□□-□□□J-3

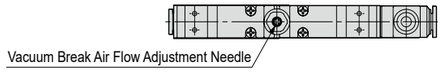


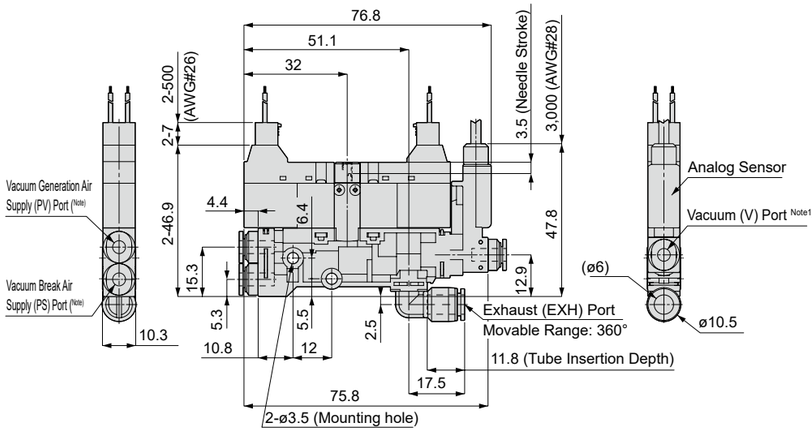


● Individual air supply port, common exhaust, with vacuum pressure switch
• VSN-□□-□□□J-3-V□□□/R□

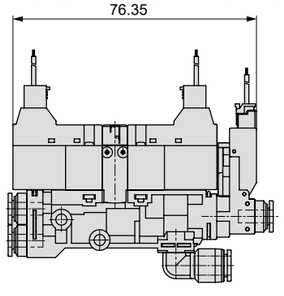


• Analog Output Switch for Compound Pressure (R□)





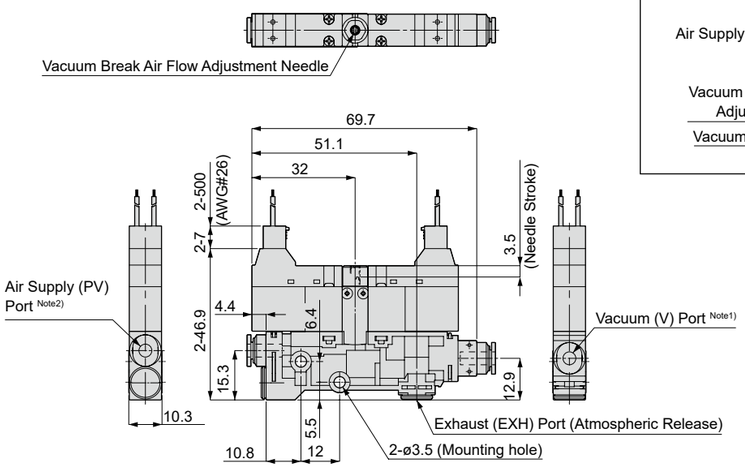
• Analog Output Switch for Negative Pressure (V□□□)

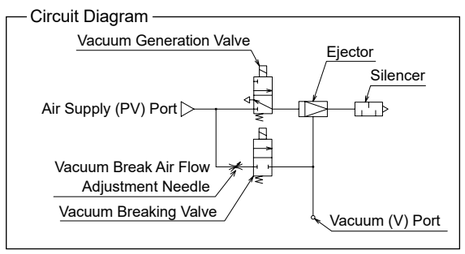


Note1) For vacuum (V) port dimensions, P. 230 Refer to Table 1 on .
Note2) For dimensions of the air supply (PV) port for vacuum generation, P. 230 Refer to Table 2 on the .
Note3) For vacuum burst air supply (PS) port dimensions, P. 230 Refer to Table 2 on the .

External Dimensions Diagram (Single Unit Type)

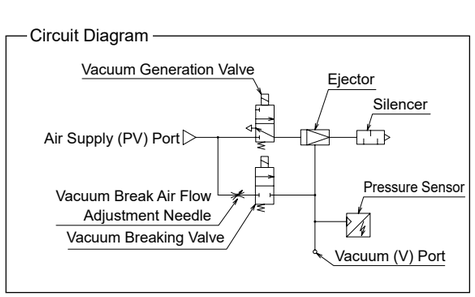
● Common air supply port, atmospheric release, without vacuum pressure switch
• VSN-□□-□□NS-3



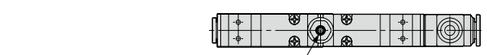


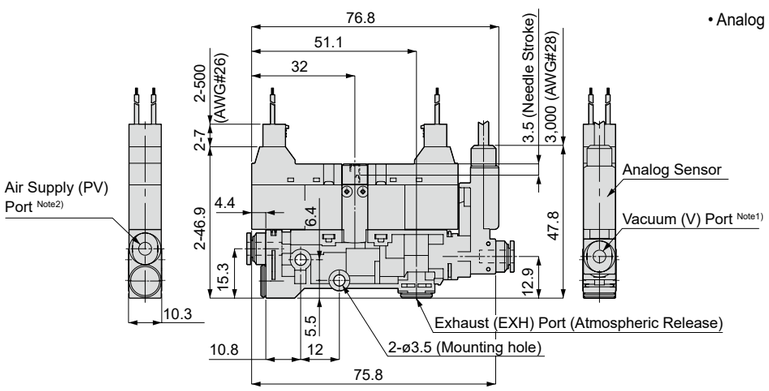
Note1) For vacuum (V) port dimensions, P. 230 Refer to Table 1 on .
Note2) For air supply (PV) port dimensions, P. 230 Refer to Table 2 on the .

● Common air supply port, atmospheric release, with vacuum pressure switch
• VSN-□□-□□NS-3-V□□□/R□

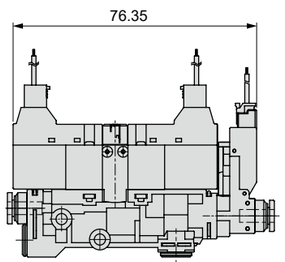


• Analog Output Switch for Compound Pressure (R□)





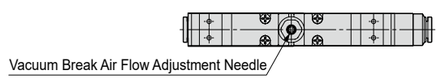
• Analog Output Switch for Negative Pressure (V□□□)

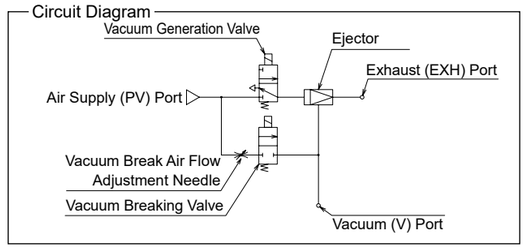


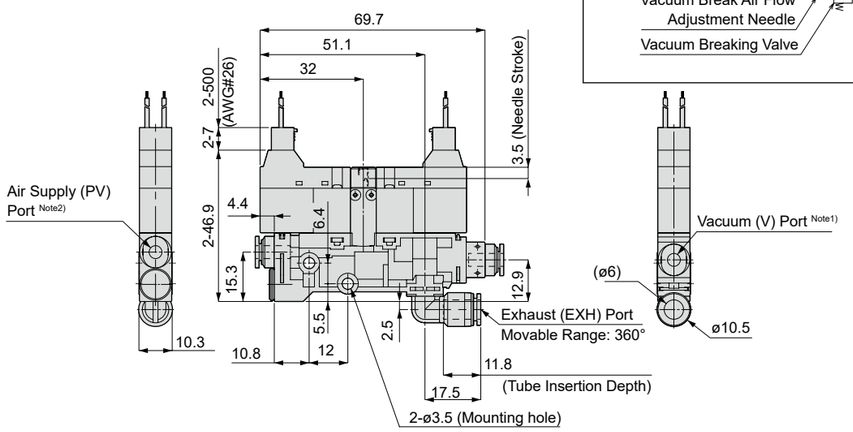
Note1) For vacuum (V) port dimensions, P. 230 Refer to Table 1 on .
Note2) For air supply (PV) port dimensions, P. 230 Refer to Table 2 on the .

External Dimensions Diagram (Single Unit Type)

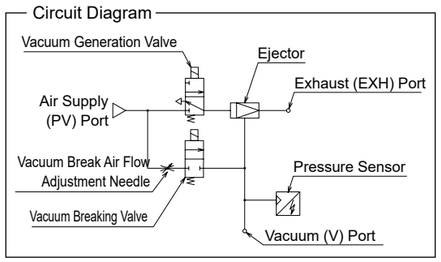
● Common air supply port, common exhaust, without vacuum pressure switch
• VSN-□□-□□NJ-3



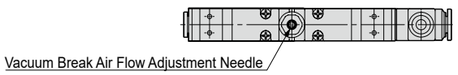


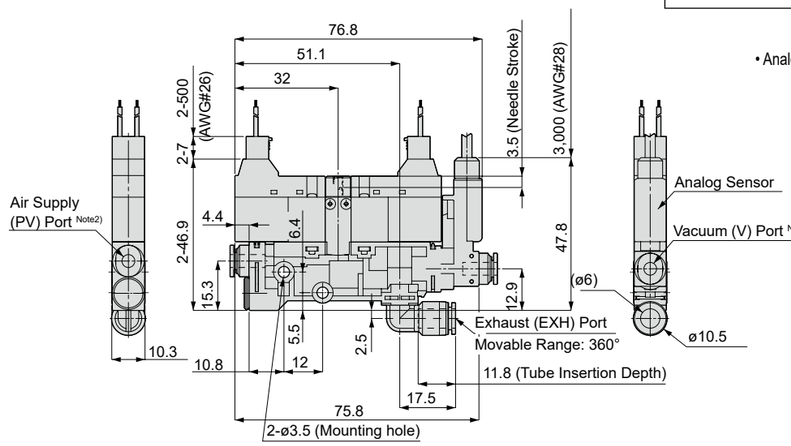


● Common air supply port, common exhaust, with vacuum pressure switch
• VSN-□□-□□NJ-3-V□□□/R□

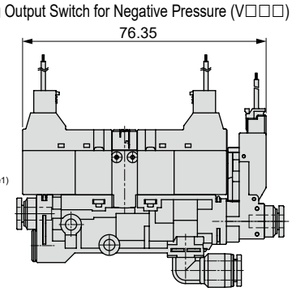


• Analog Output Switch for Compound Pressure (R□)





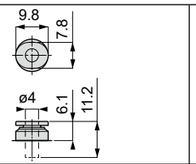
• Analog Output Switch for Negative Pressure (V□□□)



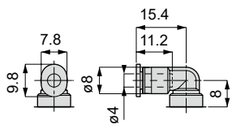
Note1) For vacuum (V) port dimensions, P. 230 Refer to Table 1 on .
Note2) For air supply (PV) port dimensions, P. 230 Refer to Table 2 on the .

External Dimension Drawings

● Single unit fitting dimensions

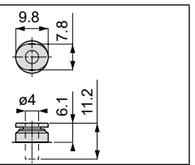


ø4 Push-in straight fitting



ø4 Push-in elbow fitting

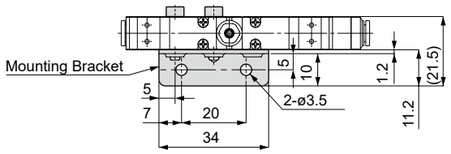
Table 1: Vacuum Port Push-in Fitting Shape

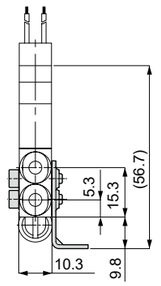


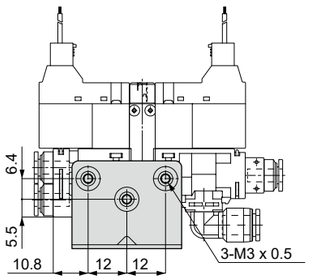
4 (ø4 Straight)

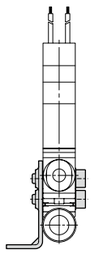
Table 2: Supply Port Push-in Fitting Shape

● Dedicated bracket for single unit
• VSN-B



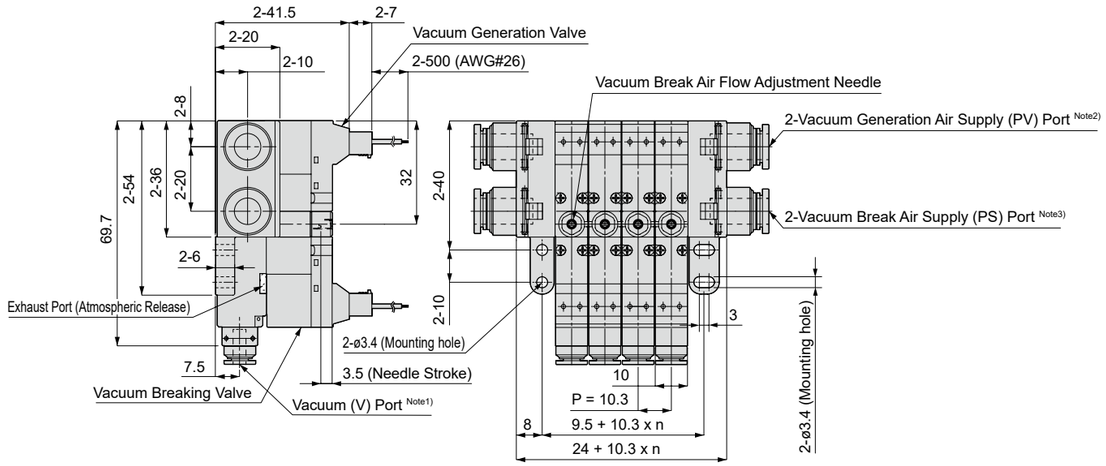






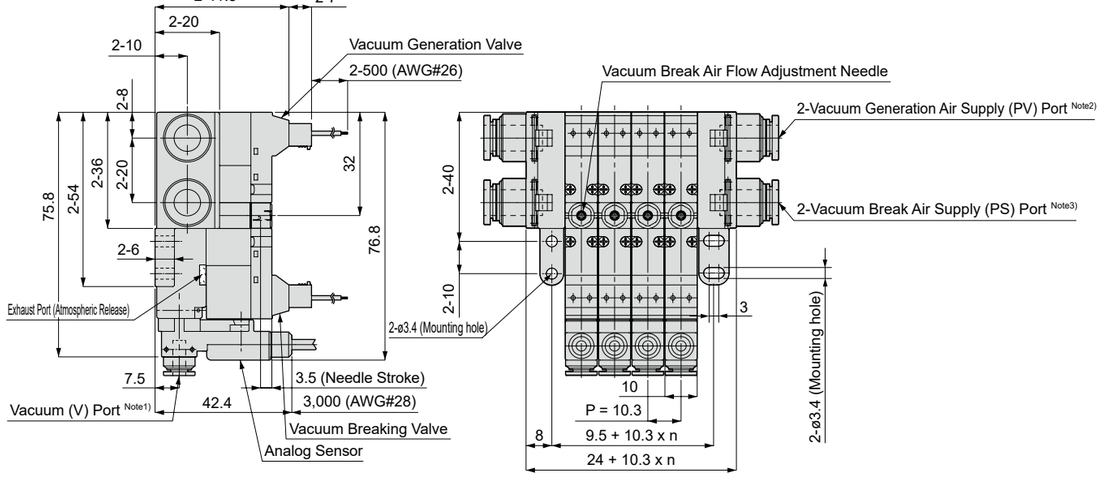
External Dimensions Diagram (Manifold Type)

● Individual air supply port, without vacuum pressure switch
• VSNM-□□-□□□S-3-□

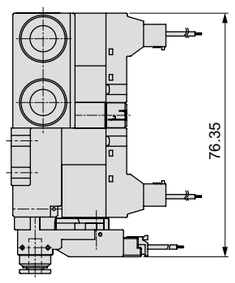


● Individual air supply port, with vacuum pressure switch
• VSNM-□□-□□□S-3-□-V□□□/R□

• Compound Pressure Analog Output Switch(R□)



• Analog Output Switch for Negative Pressure (V□□□)

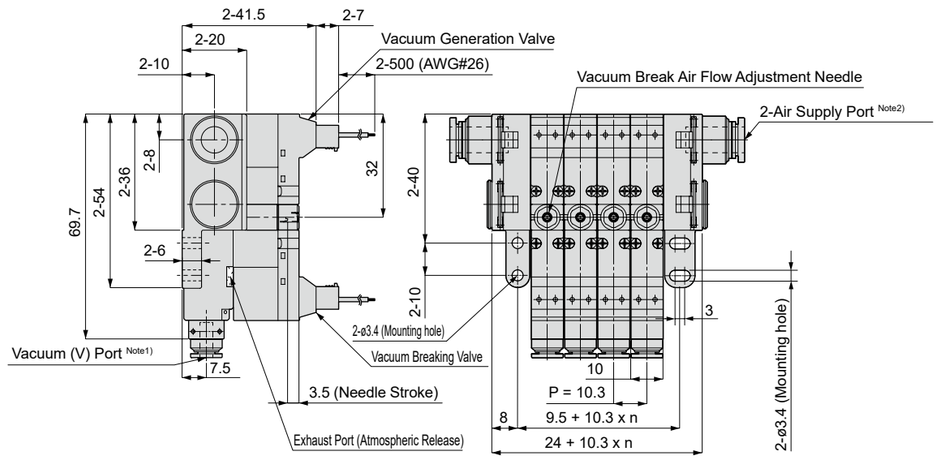


Note1) For vacuum port dimensions, P. 233 Refer to Table 1 on .
Note2) For dimensions of the air supply port for vacuum generation, P. 233 Refer to Table 2 on the .
Note3) For vacuum burst air supply port dimensions, P. 233 Refer to Table 2 on the .

External Dimensions Diagram (Manifold Type)

● Common air supply port, without vacuum pressure switch

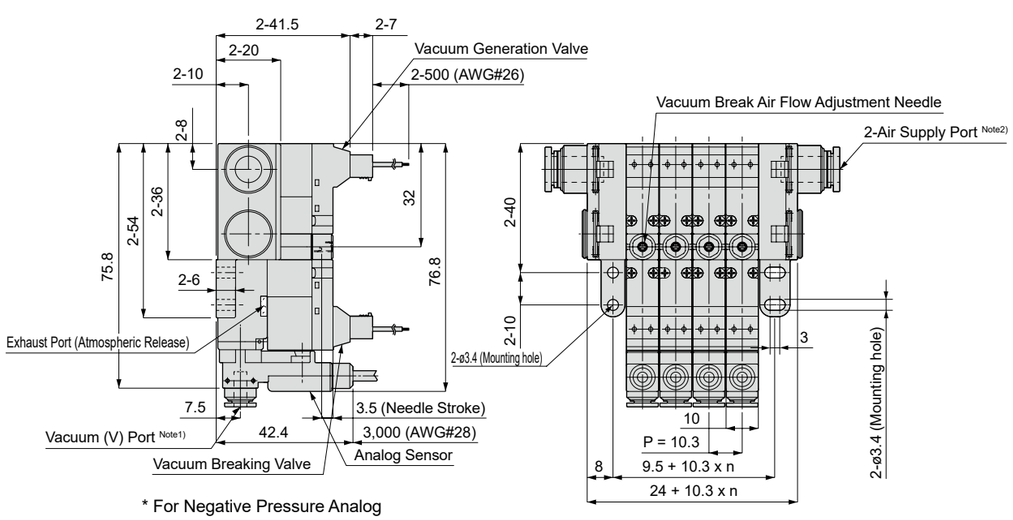
• VSNM-□□-□□NS-3-□



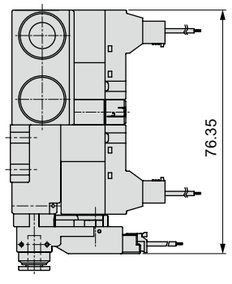
● Common air supply port, with vacuum pressure switch

• VSNM-□□-□□NS-3-□-V□□□/R□

• Compound Pressure Analog Output Switch(R□)



* For Negative Pressure Analog Output Switch(V□□□)



Note1) For vacuum port dimensions, P. 233 Refer to Table 1 on .

Note2) For air supply port dimensions, P. 233 Refer to Table 2 on the .

External Dimensions Diagram (Manifold Type)

● Manifold fitting dimensions

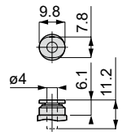
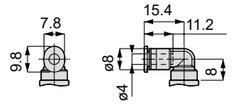
	
ø4 Push-in straight fitting	ø4 Push-in elbow fitting

Table 1: Vacuum Port Push-in Fitting Shape

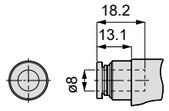
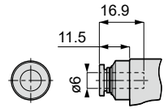
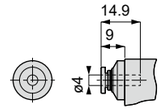
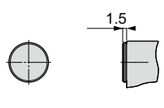
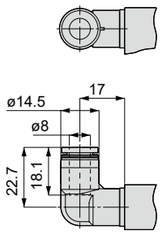
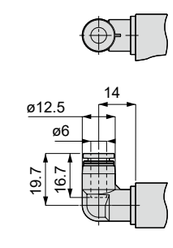
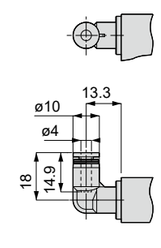
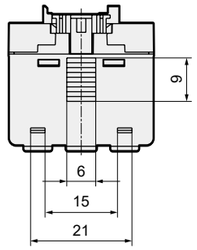
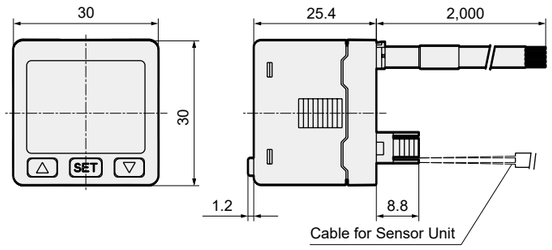
			
ø8 Push-in straight fitting	ø6 Push-in straight fitting	ø4 Push-in straight fitting	Plug Type
			
ø8 Push-in elbow fitting	ø6 Push-in elbow fitting	ø4 Push-in elbow fitting	

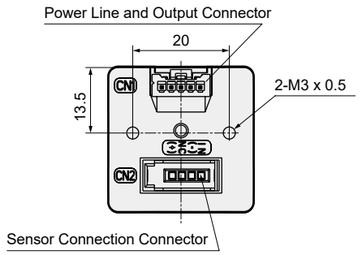
Table 2: Supply Port Push-in Fitting Shape

External Dimension Drawings

● Separate Digital Indicator







• Power Line and Output Wiring Specifications

Wire Color	Content
Brown	Power Supply (10.8 to 26.4 VDC)
Orange	Analog Output (1 to 5 V)
White	OUT2 Output
Black	OUT1 Output
Blue	COMMON

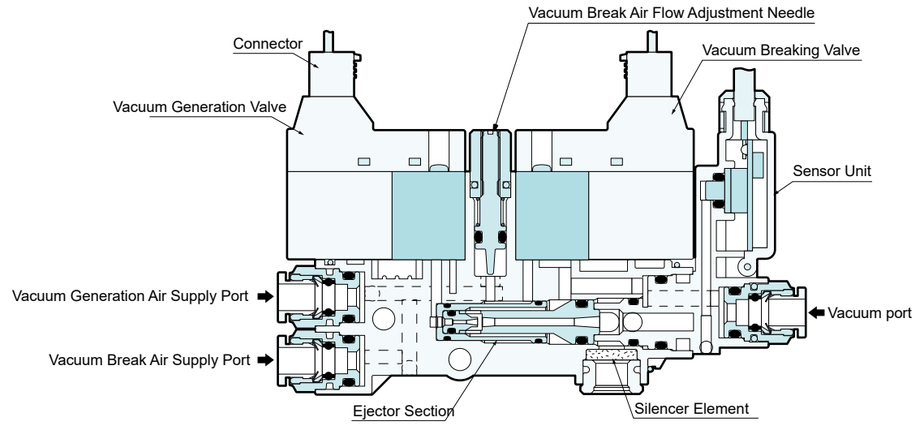
• Sensor Unit Connection Wiring Specifications

Wire Color	Content
Brown	DC+
Blue	DC-
Black	IN

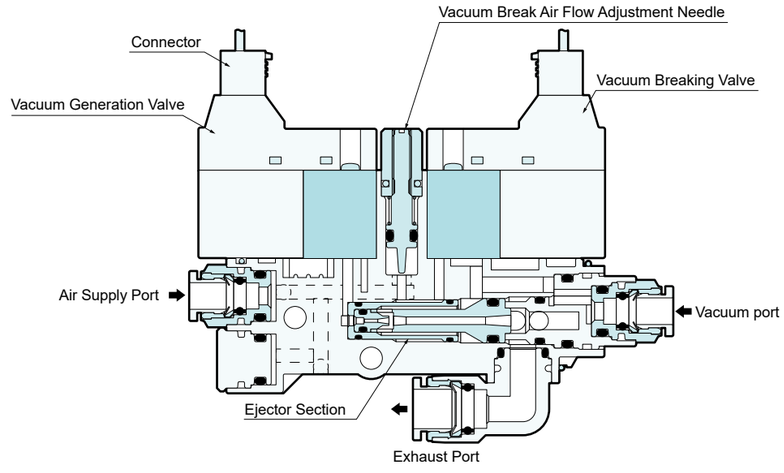
* For how to wire the sensor connection connector, P. 238.

Internal Structure Diagram

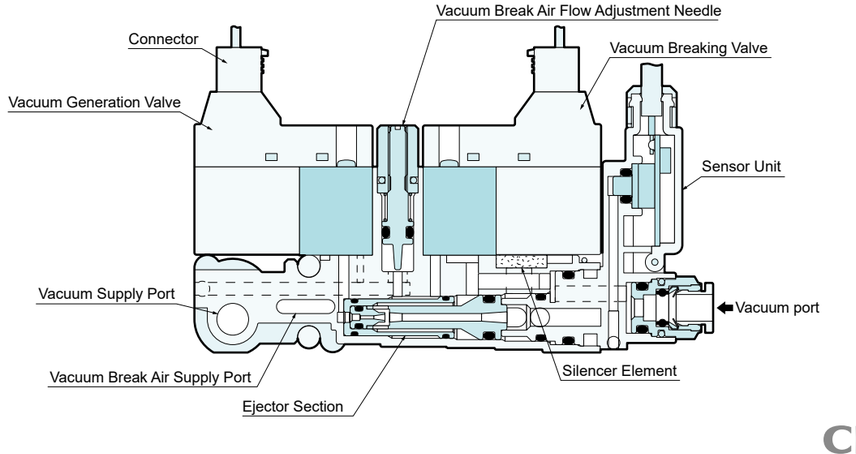
● Vacuum ejector unit single-type
• Air Supply Port Individual-type, Atmospheric Release, With Vacuum Pressure Switch



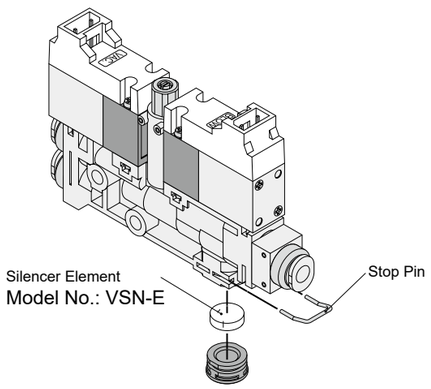
● Vacuum ejector unit single-type
• Air Supply Port Common Type, Centralized Exhaust, Without Vacuum Pressure Switch

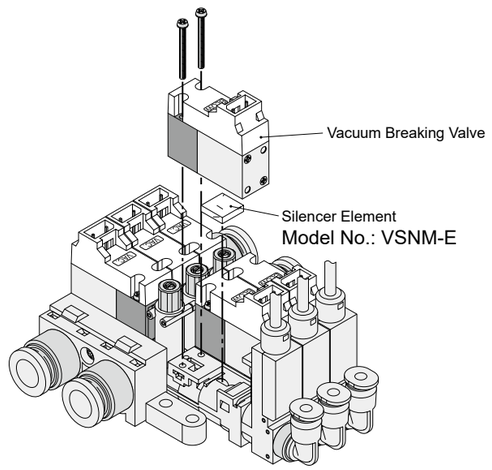


● Vacuum ejector unit manifold
• With Vacuum Pressure Switch



Maintenance Parts





Pneumatic Components

To Use This Product Safely

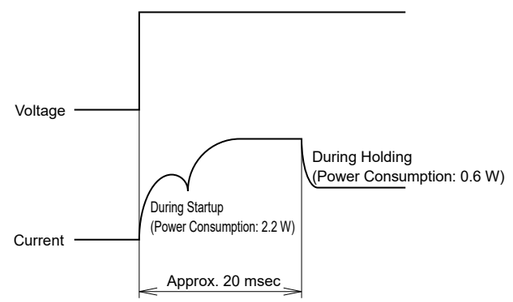
Be sure to read this before use.
For general pneumatic components precautions, Intro P. 15 for details.

Individual Precautions: VSN Series

Design / Selection

Warning

■The solenoid valve of this product uses a current control circuit, serving as a mechanism to reduce the current value when the coil is kept energized. Absolutely avoid use in environments subject to vibration/shock outside of specifications. This can lead to valve malfunction.



Current/Voltage Waveform During Solenoid Valve Energization

Caution

■The solenoid valve lead wire of this product has polarity. If the polarity is incorrect, the solenoid valve will not operate.

■This product does not have a Vacuum Filters. Always use our company's vacuum filter series together with this product. If a vacuum filter is not used, sucked-in dust, dirt, etc., will accumulate inside the product, causing degradation of vacuum performance (ejector system compatible unit) or solenoid valve leakage/ malfunction(ejector system compatible unit, vacuum pump system compatible unit), etc. (Recommended Vacuum Filters: VSFU Series, VSFJ Series

■In the manifold, the number of units that can operate at the same time is limited due to the conditions of the air supply amount(supply port size, pipe length, regulator processing flow rate, etc.) and ejector air consumption(vacuum characteristics), etc. If using the manifold type in a manner involving simultaneous operation, please consult our sales office.

■The solenoid valve of this product essentially operates continuously. If performing continuous energization exceeding 15 minutes, limit it to 10 times/day or less. Also, return to normal operation after continuous energization.

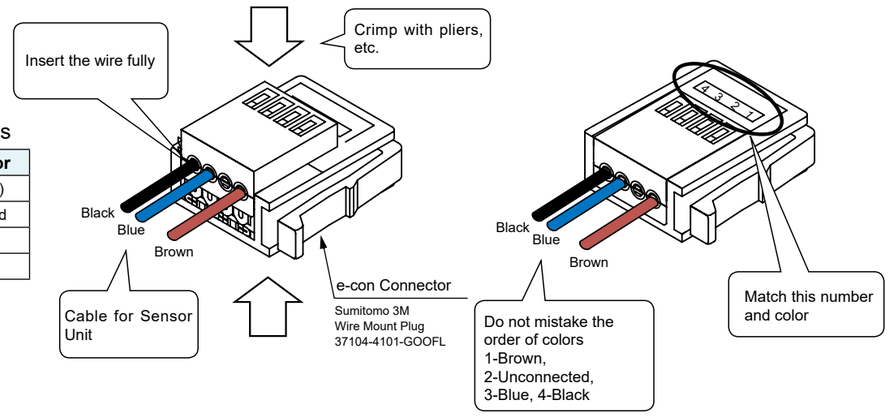
For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Equipment Product Site(https: //www.ckd.co.jp/kiki/en/) → 'model No.' → Instruction Manual.

How to Use

■ How to connect sensor connection connector(e-con)

For connection of the sensor connection connector, cut the half-strip part at the tip of the cable lead wire before use. Insert the lead wire fully into the connector and securely crimp it with a tool such as pliers.

- Removal of lead wire insulation is not required.
- Incorrect wiring can lead to destruction, failure, or malfunction of the sensor/indicator. During crimping, check the pin number and wire color, and be careful to avoid mistakes.
- Once the sensor connection connector is crimped, it cannot be reused. If a wiring mistake or lead wire insertion failure occurs, use a new sensor connection connector.



* Wiring Specifications

Pin No.	Cable Color
1	Brown(DC+)
2	Unconnected
3	Blue(DC-)
4	Black(IN)

MEMO

How to Create a VSNM Mixed Manifold Specification Sheet

● Mix manifold model No.(example)

VSNM- ❶Z ❷00 - ❸CX ❹4R ❺N ❻S - ❼3 - ❽5 - ❾Z

● Mix manifold specifications sheet

Vacuum Ejector Unit Model No. ❶ ❷ ❸ ❾	Arrangement Position 1	2	3	4	5	6	7	8	9	10	Quantity
VSNM- H 05 - 4 - R1	○	○									2
VSNM- E 05 - 4 - R2			○	○							2
VSNM- E 05 - 4L - R2					○						1
VSNM-											
VSNM-											

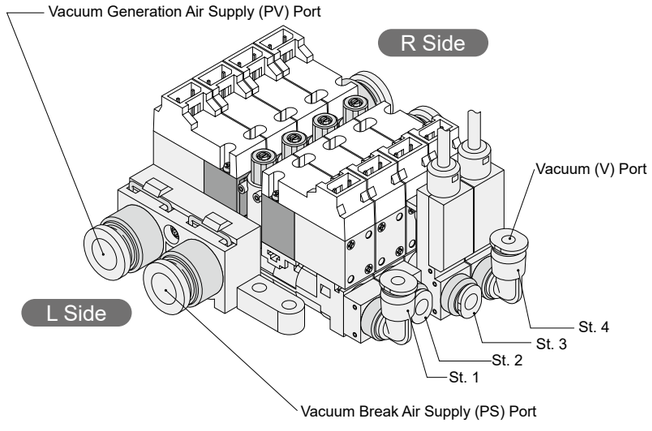
[For Fitting Mix Specification with Vacuum Port Size Only]

● Mix manifold model No.(example)

VSNM- ❶H ❷05 - ❸CX ❹4R ❺N ❻S - ❼3 - ❽5 - ❾V1C1

● Mix manifold specifications sheet

Vacuum Ejector Unit Model No. ❶ ❷ ❸ ❾	Arrangement Position 1	2	3	4	5	6	7	8	9	10	Quantity
VSNM- H 05 - 4 - V1C1	○	○									2
VSNM- H 05 - 4L - V1C1			○	○	○						3
VSNM-											
VSNM-											
VSNM-											



[Notes for Filling Out]
- For piping position, place the vacuum port at the front and install sequentially from the left.
- In the Required Quantity column at the right end of the table, enter the total quantity of the specified product model No.s.

VSNM Mixed Manifold Specification Sheet

Date of Issue
Company
Contact Person Quantity Set Delivery Date (Month/Day)
Attn:
Voucher No. Order Received No.
Order No.

● Mix manifold model No.

VSNM- ❶ ❷ - ❸ ❹ ❺ ❻ - ❼ - ❽ - ❾

❶ Vacuum Characteristics

Code	Content
H	High Vacuum/Medium Flow Type
E	High Vacuum/Low Flow Type
Z	For mixed specifications (Provide details in the specification sheet)

❷ Nozzle Diameter

Code	Content
04	ø0.4
05	ø0.5
06	ø0.6
00	For mixed specifications (Provide details in the specification sheet)

❸ Vacuum Port (V)

Code	Content
4	ø4 Push-in straight fitting
4L	ø6 Push-in elbow fitting
CX	For fitting mix(Provide details in the specification sheet)

❹ Vacuum Generation Air Supply Port (PV)

Code	Content
Unit combination is P. 218 Refer to .	

❺ Vacuum Break Air Supply Port (PS)

Code	Content
Unit combination is P. 218 Refer to .	

❻ Exhaust Port (EX)

Code	Content
S	Atmospheric Release with Silencer

❼ Solenoid Valve Voltage

Code	Content
3	24 VDC

❽ Number of Manifold Stations

Code	Content
2	2 stations
to	to
10	10 stations

❾ Vacuum Port (V)

Code	Content
Blank	Without Vacuum Pressure Switch
V1C0	Analog Output for Negative Pressure / Connector Lead Wire 500 mm
V1C1	Analog Output for Negative Pressure / Connector Lead Wire 1000 mm
V1C2	Analog Output for Negative Pressure / Connector Lead Wire 2000 mm
V1C3	Analog Output for Negative Pressure / Connector Lead Wire 3000 mm
V2C0	Separate LED Indicator + Analog Output for Negative Pressure / Connector Lead Wire 500 mm
V2C1	Separate LED Indicator + Analog Output for Negative Pressure / Connector Lead Wire 1000 mm
V2C2	Separate LED Indicator + Analog Output for Negative Pressure / Connector Lead Wire 2000 mm
V2C3	Separate LED Indicator + Analog Output for Negative Pressure / Connector Lead Wire 3000 mm
R1	Analog Output for Compound Pressure / Grommet Lead Wire 3000 mm
R2	Separate LED Indicator + Analog Output for Compound Pressure / Grommet Lead Wire 3000 mm
Z	For mixed specifications (Provide details in the specification sheet.)

Notes for model No. Selection

Note1) The only available combinations for ❶ and ❷ are 'E04', 'H05', 'E05', 'H06', 'E06', and 'Z00'.

● Mix manifold specifications sheet

Vacuum Ejector Unit Model No. ❶ ❷ ❸ ❾	Arrangement Position 1	2	3	4	5	6	7	8	9	10	Quantity
VSNM-											
VSNM-											
VSNM-											
VSNM-											
VSNM-											