



Ejector System/31.5 mm Width Integrated Type Vacuum Ejector Unit

VSQ Series



Integrated type vacuum ejector unit optimal for controlling large flow rates

Abundant vacuum characteristic variations

Nozzle Diameter	Suction Flow Rate (L/min (ANR))			Air Consumption (L/min (ANR))			Ultimate Vacuum Pressure (-kPa)		
	H	L	E	H	L	E	H	L	E
1.5 mm	63	95	42	100	70	93	66	92	
2.0 mm	97.5	160	70	200	150	93	66	92	
	T			T			T		
1.5 mm (0.7 mm)		40 (24)			100 (23)			93 (93)	
2.0 mm (1.0 mm)		70 (36)			200 (46)			93 (93)	
	D			D			D		
0.7 mm		52			23			93	
1.0 mm		75			46			93	
1.2 mm		85			70			93	

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

3 types of nozzle types standardized

- **Single Nozzle Type:** Nozzle Diameter 1.5, 2.0 mm
- **Twin Nozzle Type:** Nozzle Diameter 1.5, 2.0 mm
- **2-Stage Nozzle Type:** Nozzle Diameter 0.7, 1.0, 1.2 mm

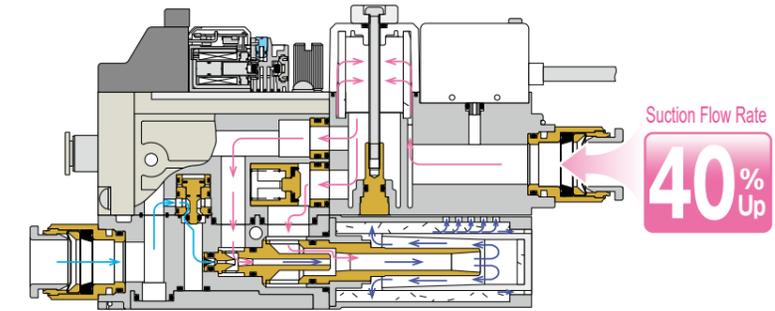
Abundant variations of vacuum generation valves

- **Single Nozzle Type:** Normally Closed, Normally Open, Self-holding types
- **Twin Nozzle Type:** Normally Closed Type
- **2-Stage Nozzle Type:** Normally Closed, Normally Open types

Single type is an orthodox integrated type high flow vacuum ejector

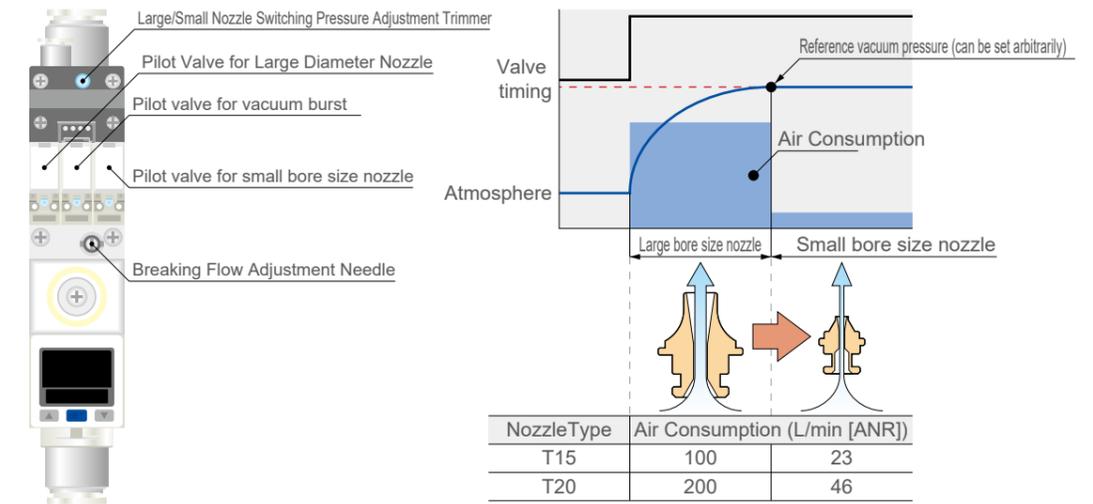
Suction flow rate of 2-stage nozzle type is approx. 40% higher compared to conventional single type

40% increase compared to the suction flow rate of our company's integrated type vacuum generator.



Twin nozzle type is optimal for applications with long suction time and transport time

- Vacuum rise up to the reference vacuum pressure is handled by the large diameter nozzle, and above the reference vacuum pressure is controlled by the small diameter nozzle, resulting in significant savings in consumption flow rate; energy-saving design type.
- Control possible with the conventional single signal for vacuum generation.



Pressure sensor equipped with easy-to-read LCD 2-screen, 3-color display

With power saving mode function, 30% power saving possible.



Selection of negative common specification possible

Optimal when the negative side of the power supply is used as a common reference unit.

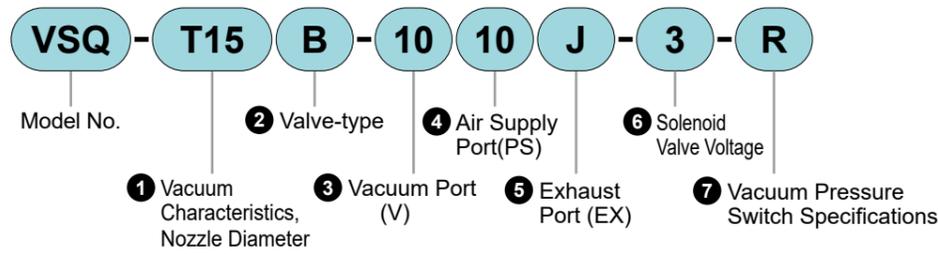
Atmospheric release type exhaust noise: 78 dB [A] (Representative model, according to our company's measurement conditions)

Compliant with Global Standards



Model No. Notation

●31.5 mm Width Single Unit Dedicated Vacuum Ejector Unit



Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

●Design compatible with rechargeable battery manufacturing process

VSQ - - P4*

*Please inquire for details.

1 Vacuum Characteristics, Nozzle Diameter

Vacuum Characteristics	Flow Rate	Nozzle Diameter	Code
Single Nozzle Type	High Vacuum	Medium Flow Rate	H15
	Medium Vacuum		L15
	High Vacuum	Low Flow Rate	E15
	High Vacuum		H20
	Medium Vacuum	High Flow Rate	L20
	High Vacuum	Low Flow Rate	E20
Twin Nozzle Type		ø1.5 (ø0.7)	T15
		ø2.0 (ø1.0)	T20
2-Stage Nozzle Type		ø0.7	D07
		ø1.0	D10
		ø1.2	D12

*1: When 1 is 'T15' or 'T20', Valve Type 2 'A' and 'D' cannot be selected.
 *2: When 1 is 'D07', 'D10', or 'D12', Valve Type 2 'D' cannot be selected.
 *3: 4 '6' can only be selected when 1 is 'D07', 'D10', or 'D12'.
 *4: When 1 is 'T15' or 'T20', Solenoid Valve Voltage 6 '1' and '3MC' cannot be selected.

2 Valve-type

Code	Content
A	Normally Open Type
B	Normally Closed Type
D	Self-holding Type

*1: When 1 Vacuum Characteristics/Nozzle Diameter is 'T15' or 'T20', 2 'A' and 'D' cannot be selected.
 *2: When 1 Vacuum Characteristics/Nozzle Diameter is 'D07', 'D10', or 'D12', 2 'D' cannot be selected.

3 Vacuum Port (V)

Code	Content
8	ø8 Push-in fitting
10	ø10 Push-in fitting

4 Air Supply Port (PS)

Code	Content
6	ø6 Push-in fitting
8	ø8 Push-in fitting
10	ø10 Push-in fitting

*1: 4 '6' can only be selected when 1 is 'D07', 'D10', or 'D12'.

5 Exhaust Port (EX)

Code	Content
S	Atmospheric Release with Silencer
J	ø12 Push-in fitting centralized exhaust

6 Solenoid Valve Voltage

Code	Content
1	100 VAC
3	24 VDC (Positive Common specification)
3MC	24 VDC (Negative Common specification)

*1: When 1 Vacuum Characteristics/Nozzle Diameter is 'T15' or 'T20', 2 'A' and 'D' cannot be selected.

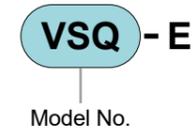
7 Vacuum Pressure Switch Specifications

Code	Content
Blank	Without Vacuum Pressure Switch
R	NPN Output 2 points with Digital Display
RP	PNP Output 2 points with Digital Display

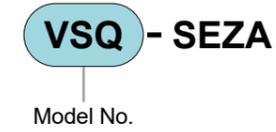
Maintenance Part Model No.

* For details on maintenance parts, please refer to P. 291.

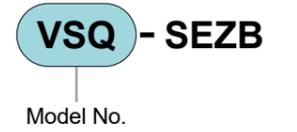
●Filter Element



●Silencer Element A



●Silencer Element B



Vacuum Components

Vacuum Components

Ejector System

Ejector System

VSU

VSU

VSH

VSH

VSK/VSKM

VSK/VSKM

VSB

VSB

VSC

VSC

VSG

VSG

VSK/VSKM

VSK/VSKM

VSJ/VSJM

VSJ/VSJM

VSN/VSNM

VSN/VSNM

VSX/VSXM

VSX/VSXM

VSQ

VSQ

VSZM

VSZM

Ending

Ending

Specifications

Item	VSQ
Operating Fluid	Air
Operating Pressure MPa	0.3 to 0.7
Ambient Temperature/Fluid Temperature °C	5 to 50

Ejector Characteristics

Vacuum Components	Ejector System	Nozzle Type		Nozzle Diameter (mm)		Rated Supply Pressure (MPa)	Ultimate Vacuum Pressure (-kPa)	Suction Flow Rate (L/min (ANR))	Air Consumption (L/min (ANR))	
Ejector System	Single Nozzle	H15	1.5	-	-	0.5	93	63	100	
		L15								
		E15								
		H20	2.0	-	-	0.5	93	(96) 97.5		200
		L20								
		E20								
Twin Nozzle	T15	0.7 (Small diameter)	1.5 (Large diameter)	0.5	93 (93)	40 [24]	100 [23]			
	T20	1.0 (Small diameter)	2.0 (Large diameter)					70 [36]	200 [46]	
VSY	2-Stage Nozzle	D07	0.7	-	0.5	93	52	23		
		D10	1.0	-			75	46		
		D12	1.2	-			85	70		

*1: The value inside [] for the Twin Nozzle type is the value for the small diameter nozzle.
*2: The value inside () is the value for Vacuum Port: *8 Push-in fitting.

Valve Specifications

●Pilot Valve

Item	Pilot Valve	
Valve-type and Operation Method	Direct acting poppet valve	
Rated Voltage V	24 VDC	100 VAC
Voltage Fluctuation Range V	DC 24 ±10%	AC 100 ±10%
Surge Suppressor	Varistor	Bridge Diode
Power Consumption	0.55 W	1 VA
Manual Override	Locking push type	
Operation Indicator	When coil is energized: Red LED lights up	

●Switching valve
* Twin Nozzle Type

Item	Valve for Small Diameter	Valve for Large Diameter	Vacuum Breaking Valve
Valve-type and Operation Method	Pilot operated poppet valve		
Valve Type	Normally Closed	Normally Closed	Normally Closed
Lubrication	Not required		
Effective Area mm ² (Cv value)	3.5 (0.19)	16.5 (0.89)	3.5 (0.19)

* 2-Stage Nozzle Type

Item	Vacuum Generation Valve	Vacuum Breaking Valve
Valve-type and Operation Method	Pilot operated poppet valve	
Valve Type	Normally Closed, Normally Open	Normally Closed
Lubrication	Not required	
Effective Area mm ² (Cv value)	3.5 (0.19)	3.5 (0.19)

* Single Nozzle Type

Item	Vacuum Generation Valve	Vacuum Breaking Valve
Valve-type and Operation Method	Pilot operated poppet valve	
Valve Type	Normally Closed, Normally Open, Self-holding	Normally Closed
Lubrication	Not required	
Effective Area mm ² (Cv value)	16.5 (0.89)	3.5 (0.19)
Minimum Energization Time (ms)	≥ 50	

Vacuum Pressure Switch Specifications

Item	Vacuum Pressure Switch		
	NPN Output (R)	PNP Output (RP)	
Working pressure kPa	-100 to 100		
Proof pressure kPa	500		
Environmental Resistance	Ambient Temperature (During Storage) °C	-10 to 60 (No condensation or freezing)	
	Ambient Temperature (During Operation) °C	0 to 50 (No condensation or freezing)	
	Ambient Humidity (Storage/Operating)	35 to 85% RH (No condensation)	
	Protection Structure	Equivalent to IEC Standard IP40	
Power Supply Voltage V	DC 12 to 24 ±10% Ripple(P-P) ≤±10%		
Current Consumption mA	≤40 (No load)		
Pressure Display	Display Update Rate	5 times/sec	
	Display Accuracy	±2% F.S. ±1 digit	
	Digital Display	Main Display: 2 colors (red, sub-display: Orange)	
Switch Output	Number of Output Points	2 points	
	Output Method	NPN Open Collector	PNP Open Collector
	Switch Rating	≤ 30 VDC 125 mA	
	Internal Voltage Drop	≤1.5 V	
Temperature Characteristics	≤ ±2% F.S.(0 to 50°C, at 25°C)		
Repeatability	±0.2% F.S. ±1 digit		
Differential (Hysteresis)	Adjustable		
Response Time	Selectable (50/250/500/1000/2000/3000 ms)		

Vacuum Filter Specifications

Item	Vacuum Filter
Element Material	Polyvinyl formal
Filtration Rating μm	10
Filtration area mm ²	1507

Vacuum Breaking Function

Item	Vacuum Breaking Function
Break Air Flow Rate L/min (ANR)	0 to 50 (at 0.5 MPa supply pressure)

Valve Lead Wire Color

●24 VDC Plus Common Specification

Nozzle Type	Black	Gray	Blue	Brown
Twin Nozzle Type	Vacuum Generation (-)	Vacuum Breaking (-)	0 V(-)	24 VDC (+ common)
2-Stage Nozzle Type	Vacuum Generation (-)	Vacuum Breaking (-)	- (*1)	24 VDC (+ common)
Single Nozzle Type	Vacuum Generation (-)	Vacuum Breaking (-)	- (*1)	24 VDC (+ common)

●24 VDC Minus Common Specification

Nozzle Type	Black	Gray	Blue	Brown
2-Stage Nozzle Type	Vacuum Generation(+)	Vacuum Breaking (+)	- (*1)	0 V(- common)
Single Nozzle Type	Vacuum Generation(+)	Vacuum Breaking (+)	- (*1)	0 V(- common)

●100 VAC Specification

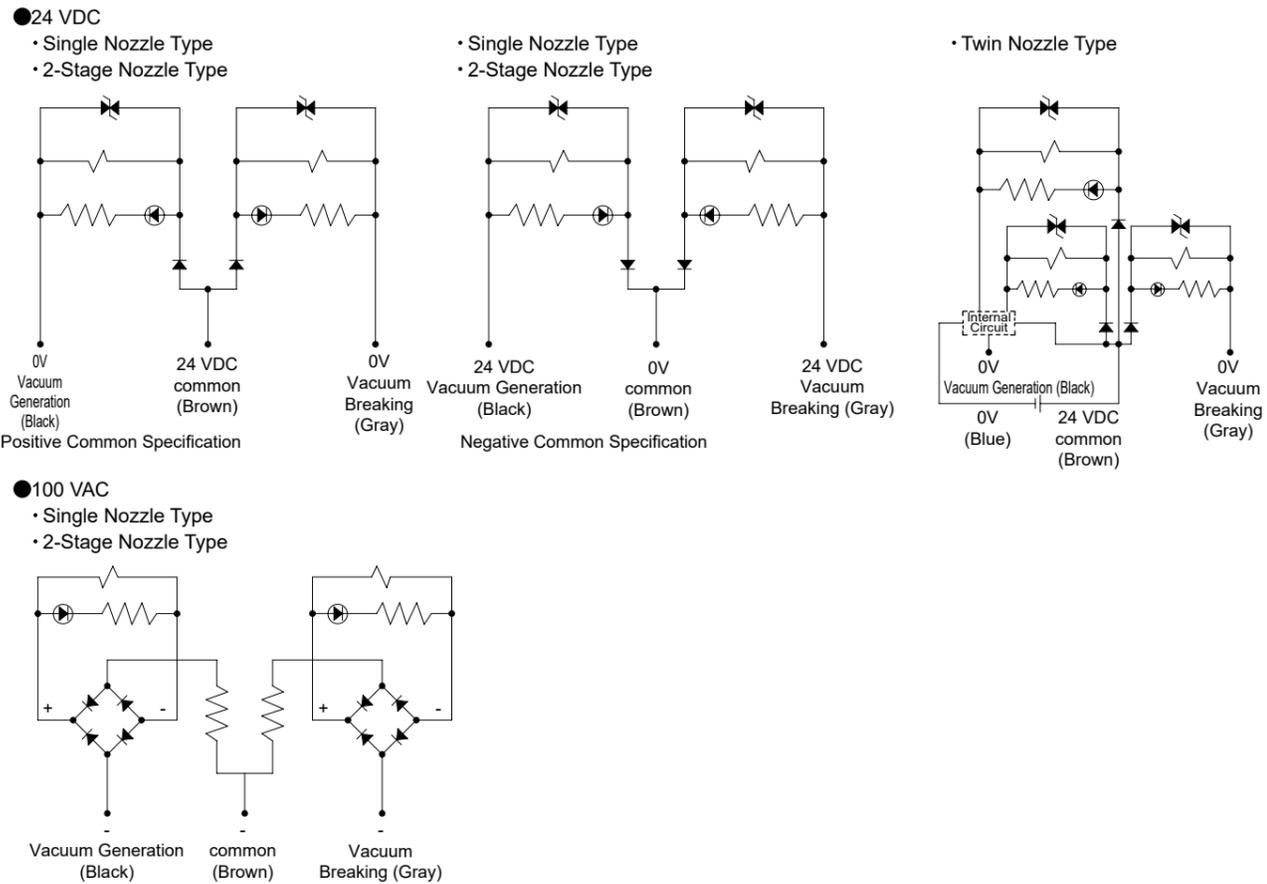
Nozzle Type	Black	Gray	Blue	Brown
2-Stage Nozzle Type	Vacuum Generation (-)	Vacuum Breaking (-)	- (*1)	common
Single Nozzle Type	Vacuum Generation (-)	Vacuum Breaking (-)	- (*1)	common

*1: For 2-stage nozzle and single nozzle, the blue lead wire is not used.

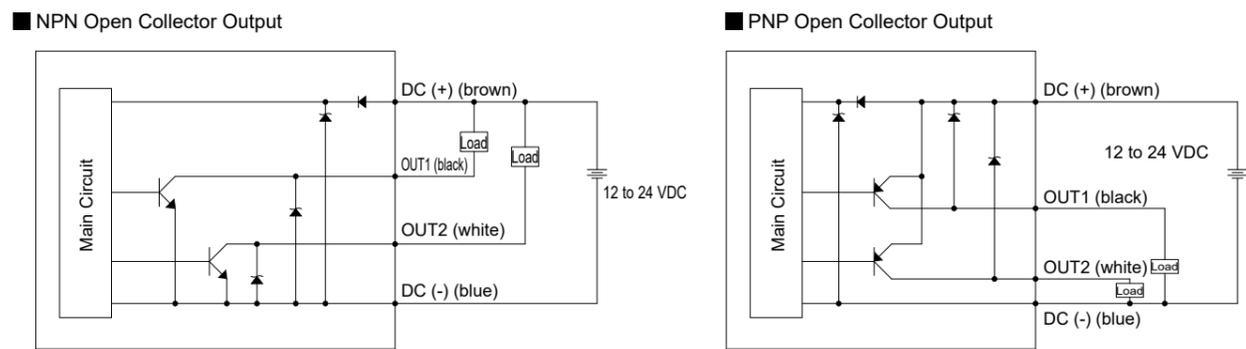
Weight Table

Model No.	Unit Contents	Weight (g)	Cartridge	Weight (g)
VSQ-□□□□□S-□	Single Nozzle, Atmospheric Release	329	ø6 Push-in fitting	21
VSQ-□□□□□S-□	Single Nozzle, Centralized Exhaust	352	ø8 Push-in fitting	20
VSQ-D□□□□S-□	2-Stage Nozzle, Atmospheric Release	329	ø10 Push-in fitting	19
VSQ-D□□□□J-□	2-Stage Nozzle, Centralized Exhaust	352		
VSQ-T□□□□S-□	Twin Nozzle, Atmospheric Release	377		
VSQ-T□□□□J-□	Twin Nozzle, Centralized Exhaust	400		
			Vacuum Pressure Switch	Weight (g)
			R, RP	57

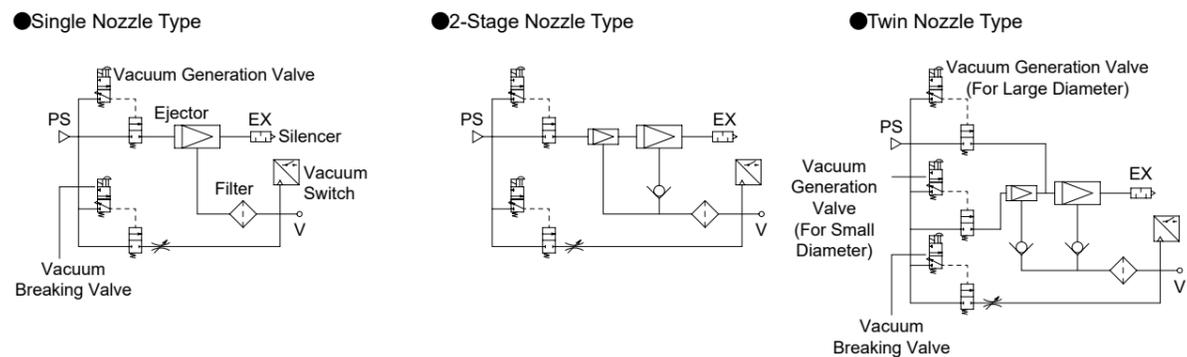
Electrical Circuit(Solenoid Valve)



Vacuum Pressure Switch Electrical Circuit Diagram

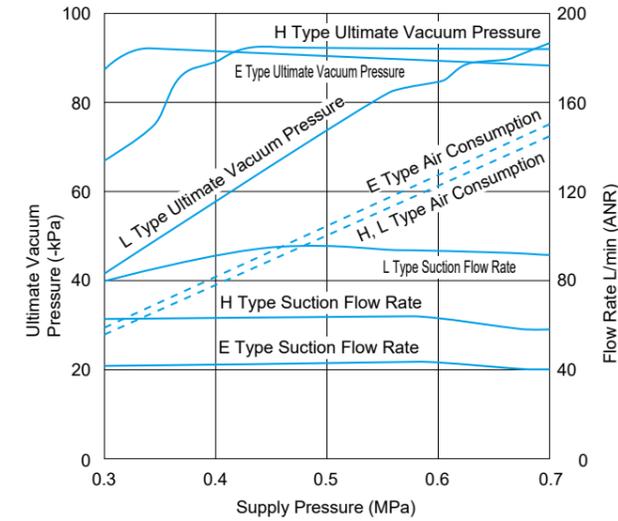


Circuit Diagram

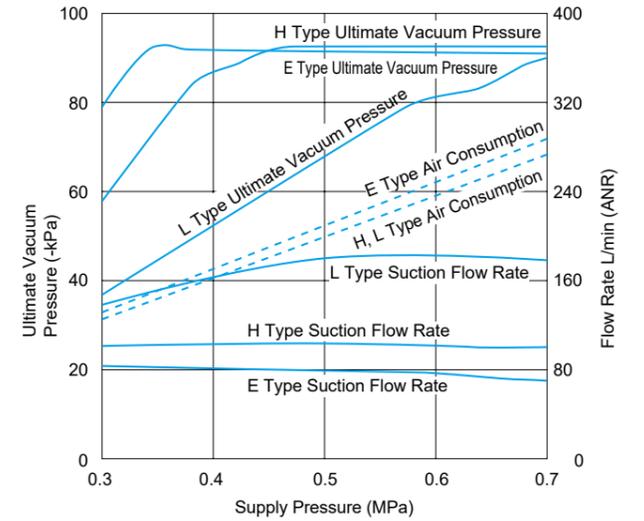


Vacuum Characteristics

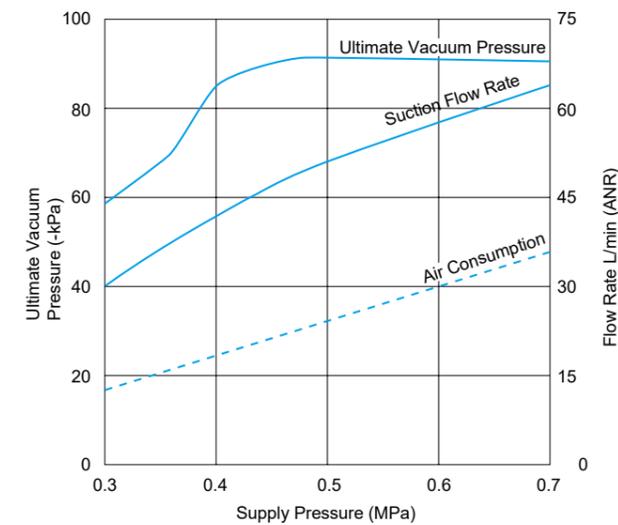
- Single Nozzle Type
- VSQ-H15□□□□□□□□
 - VSQ-L15□□□□□□□□
 - VSQ-E15□□□□□□□□ Vacuum Characteristic Diagram



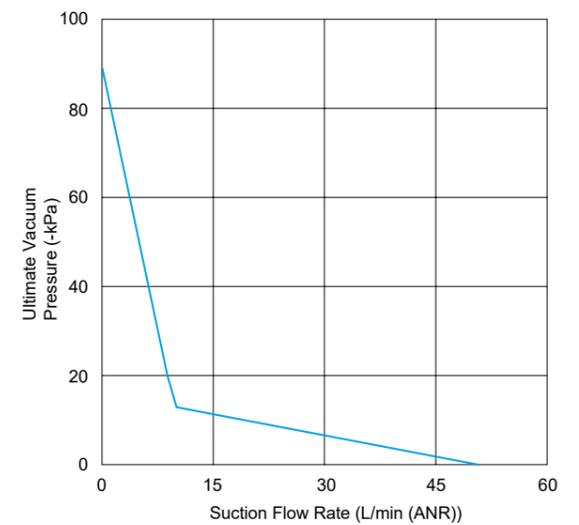
- VSQ-H20□□□□□□□□
- VSQ-L20□□□□□□□□
- VSQ-E20□□□□□□□□ Vacuum Characteristic Diagram



- 2-Stage Nozzle Type
- VSQ-D07□□□□□□□□ Vacuum Characteristic Diagram



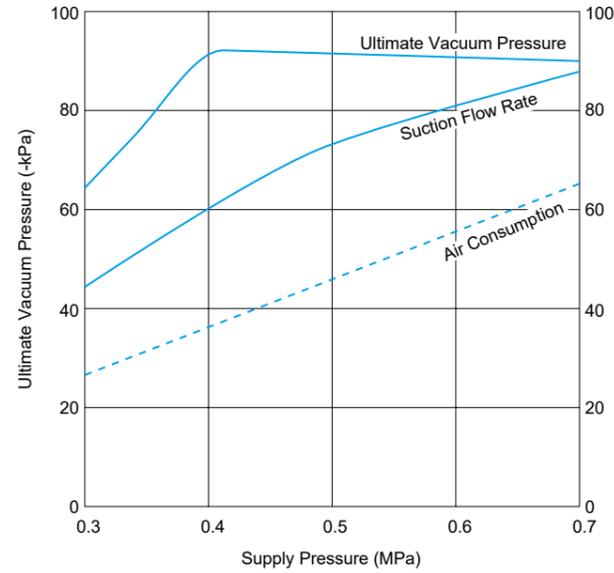
- VSQ-D07□□□□□□□□ Flow Characteristic Diagram



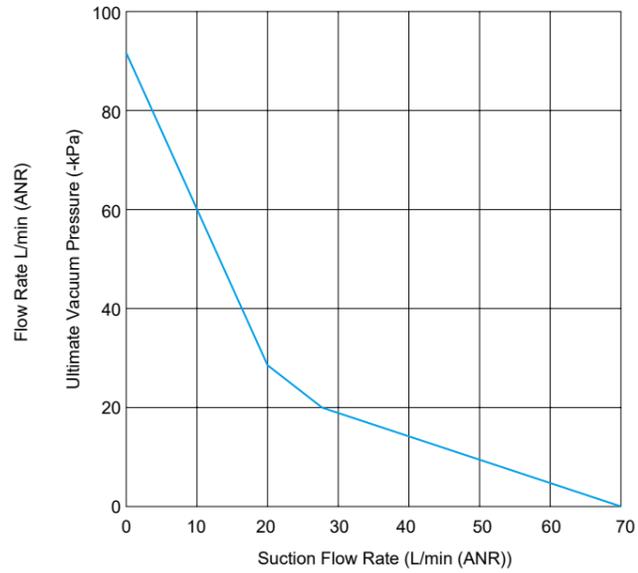
Vacuum Characteristics

● 2-Stage Nozzle Type

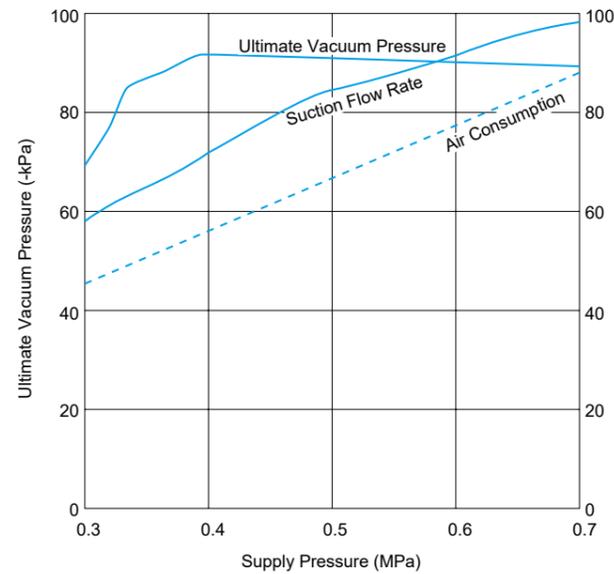
• VSQ-D10 Vacuum Characteristic Diagram



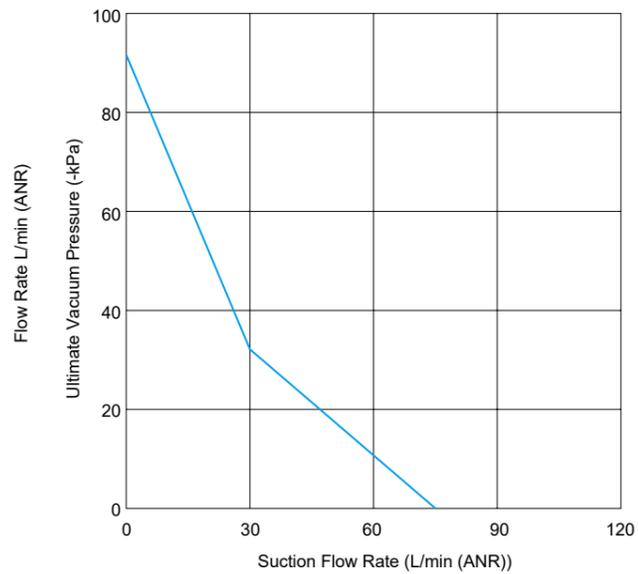
• VSQ-D10 Flow Characteristic Diagram



• VSQ-D12 Vacuum Characteristic Diagram



• VSQ-D12 Flow Characteristic Diagram

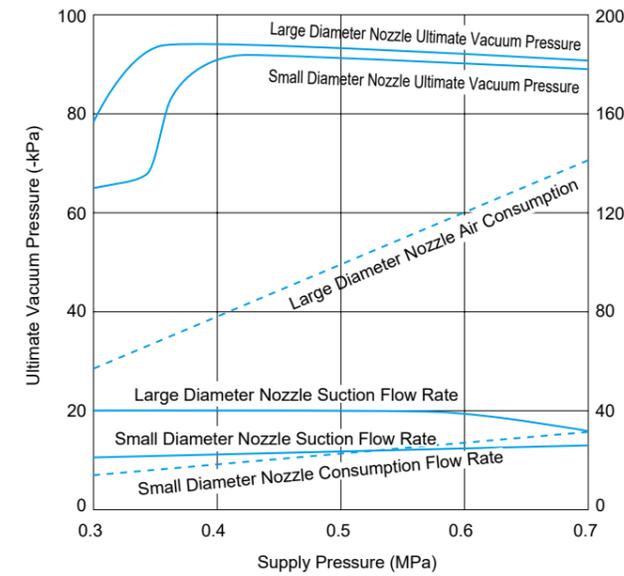


Vacuum Characteristics

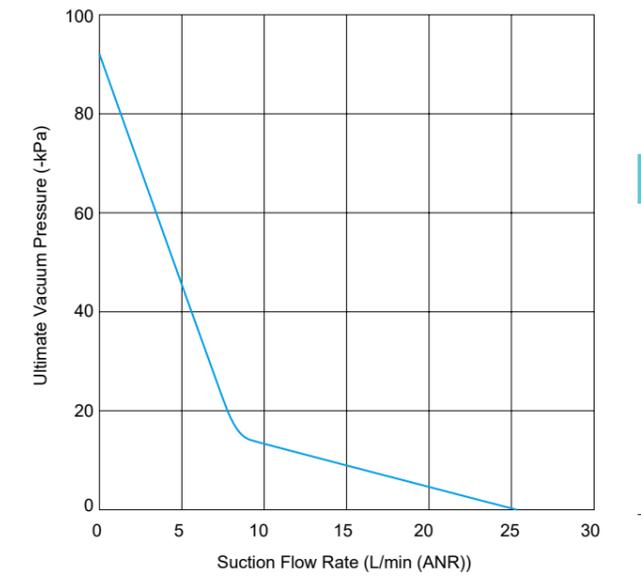
Vacuum Characteristics

● Twin Nozzle Type

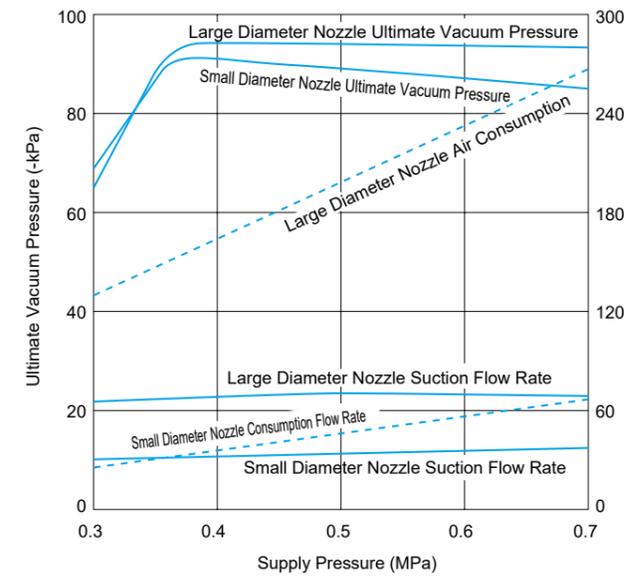
• VSQ-T15B Vacuum Characteristic Diagram



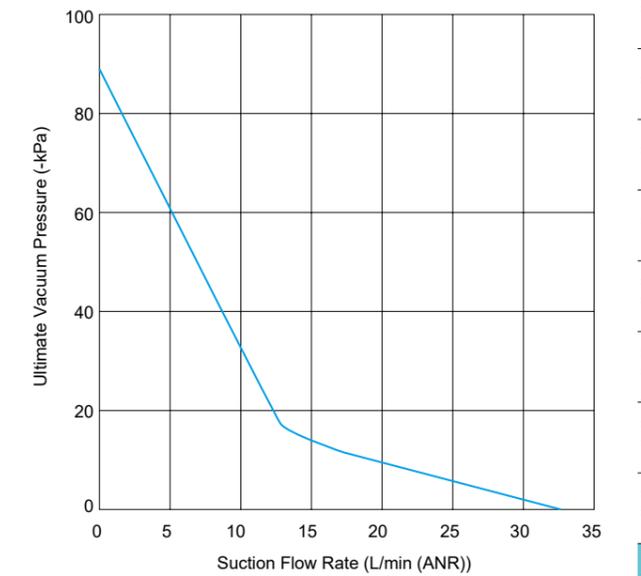
• VSQ-T15B Flow Characteristic Diagram (Small Diameter Nozzle)



• VSQ-T20B Vacuum Characteristic Diagram



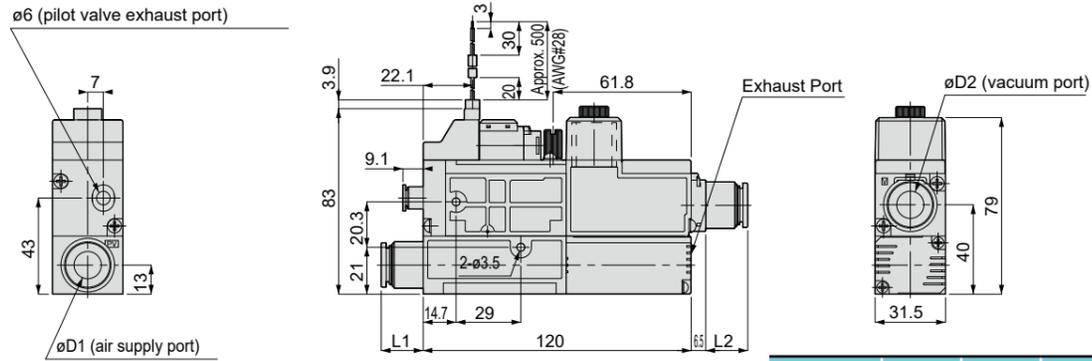
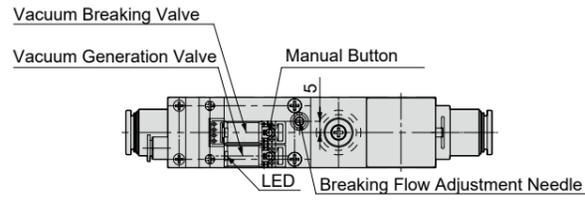
• VSQ-T20B Flow Characteristic Diagram (Small Diameter Nozzle)



- The supply pressure in the characteristics above is during vacuum generation.
- 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.
 - (Ex. 1: For an H-type vacuum ejector with source pressure 0.5 MPa, during ejector operation, the supply pressure drops to 0.43 MPa due to pressure drop, causing abnormal noise.) → Reset the supply pressure during ejector operation to 0.5 MPa.)
- 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 pressure, etc.)
 - (Ex. 2: For an H-type vacuum ejector, abnormal noise occurs even though the pressure during ejector operation is 0.5 MPa.) → 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.)
 - (Ex. 3: For a vacuum ejector with a 1.0 mm nozzle diameter, cross-sectional area $0.5^2 \times \pi = 0.785 \text{ mm}^2 \times 3 = 2.35 \text{ mm}^2$. Therefore, select piping and equipment to secure an effective cross-sectional area of 2.3 mm² or more.)

External Dimensions Diagram (Single Nozzle Type, Atmospheric Release Type)

●Without Vacuum Pressure Switch



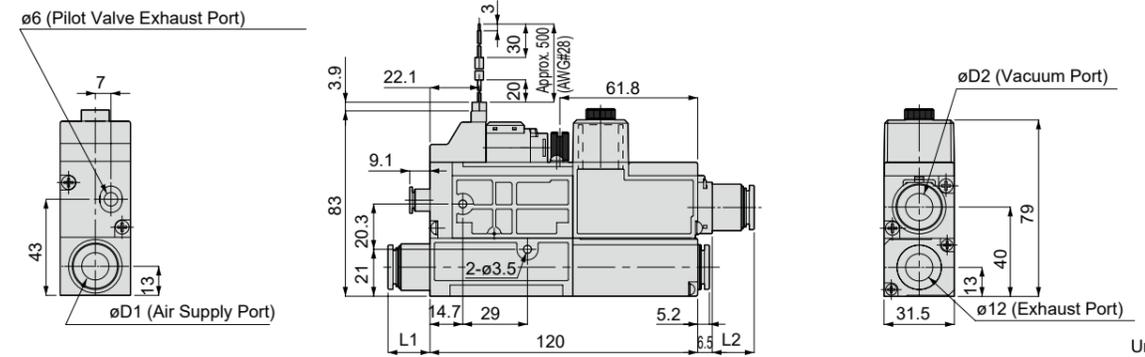
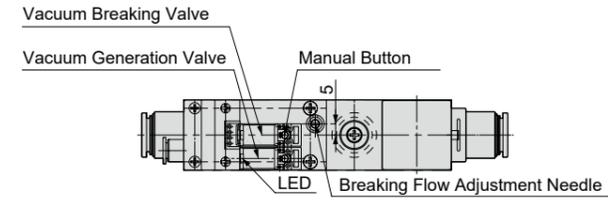
Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

External Dimension Drawings

External Dimensions Diagram (Single Nozzle Type, Centralized Exhaust Type)

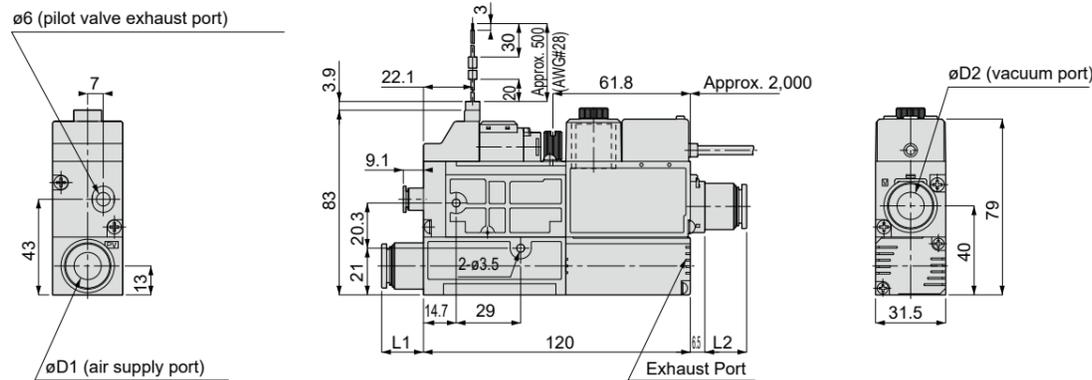
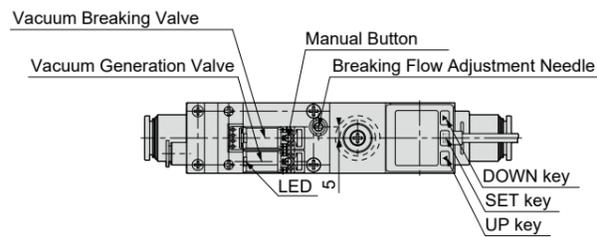
●Without Vacuum Pressure Switch



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

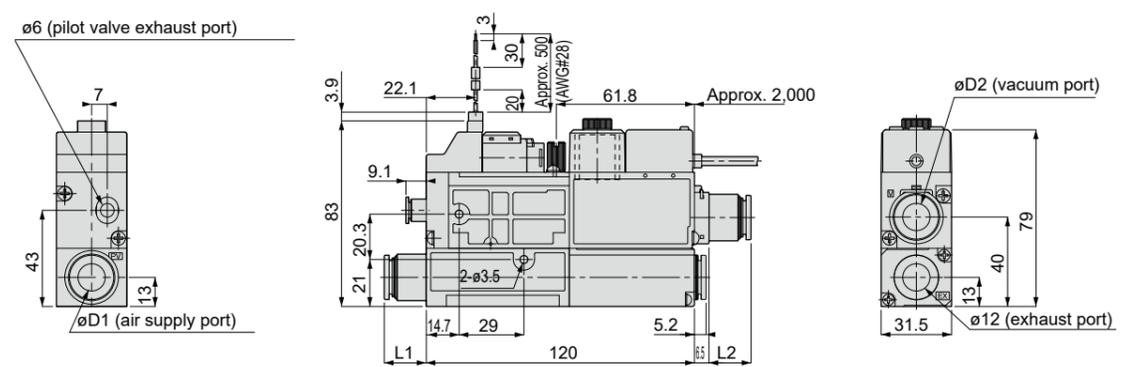
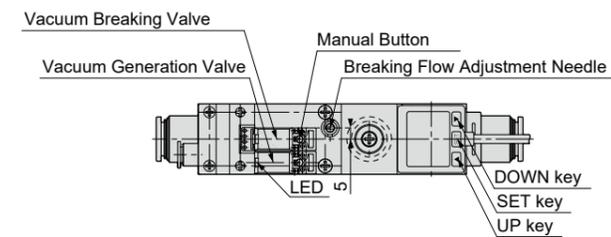
●With vacuum pressure switch and digital display



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

●With vacuum pressure switch and digital display

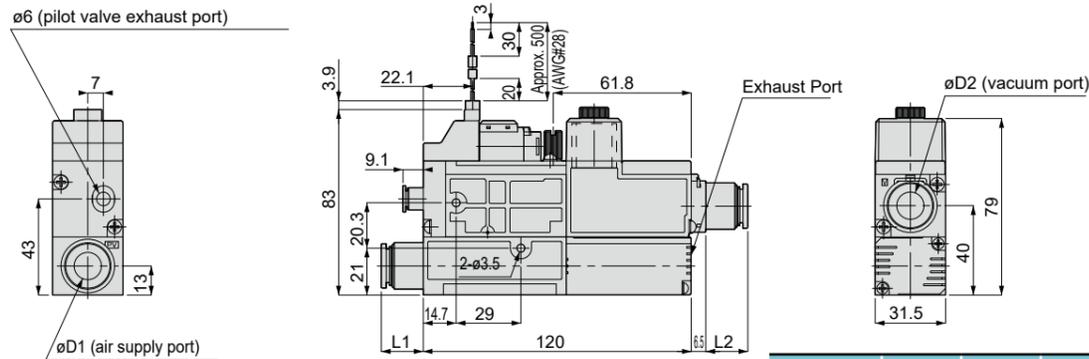
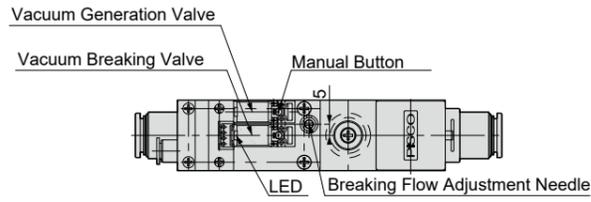


Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

External Dimensions Diagram (2-Stage Nozzle Type, Atmospheric Release Type)

●Without Vacuum Pressure Switch

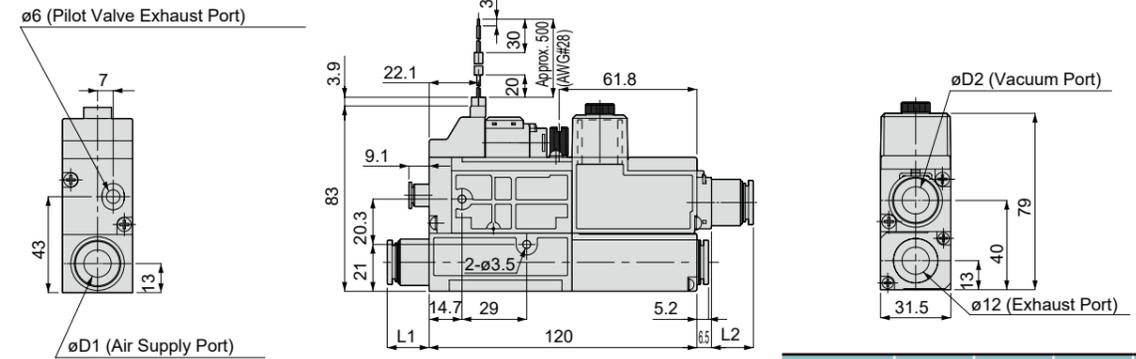
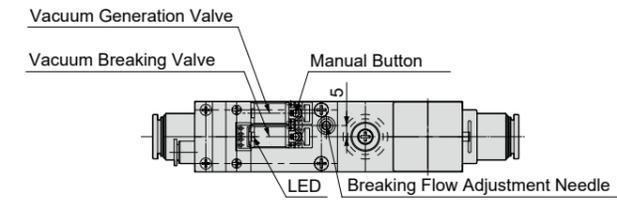


Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	6	11.1	-	-
	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

External Dimensions Diagram (2-Stage Nozzle Type, Centralized Exhaust Type)

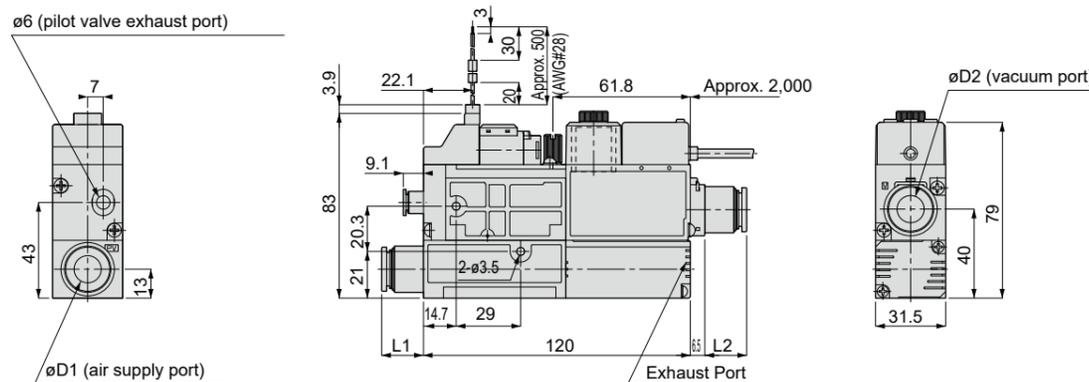
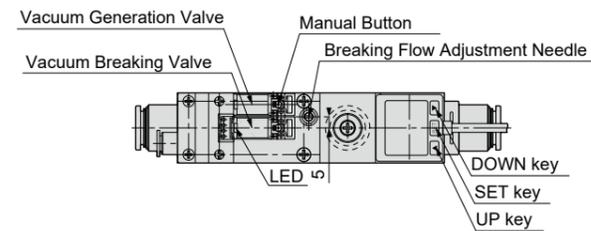
●Without Vacuum Pressure Switch



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	6	11.1	-	-
	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

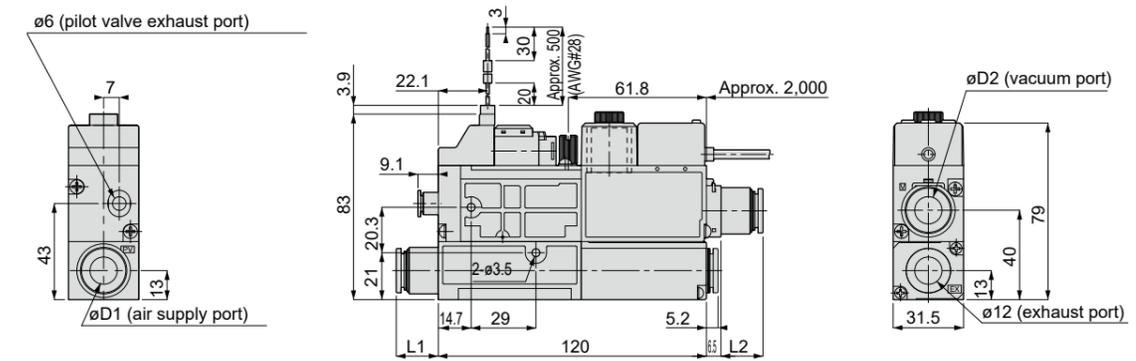
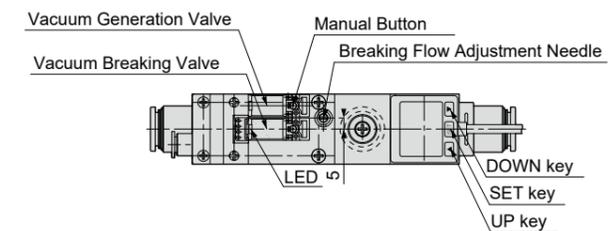
●With vacuum pressure switch and digital display



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	6	11.1	-	-
	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

●With vacuum pressure switch and digital display

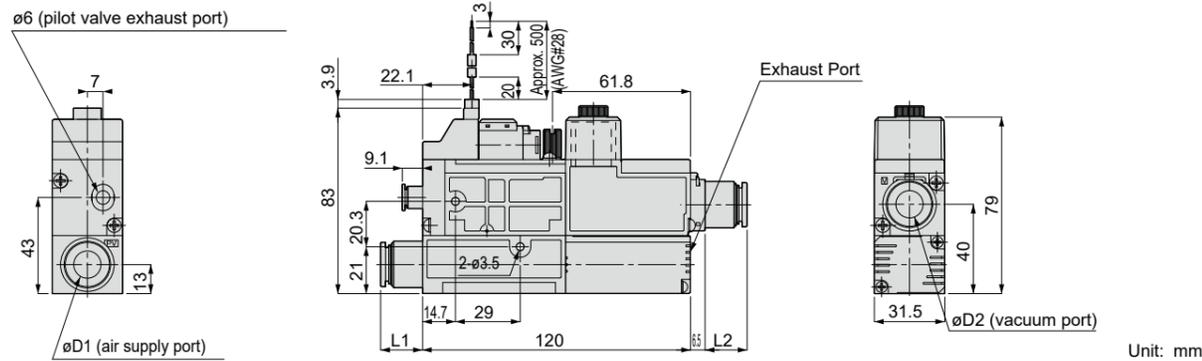
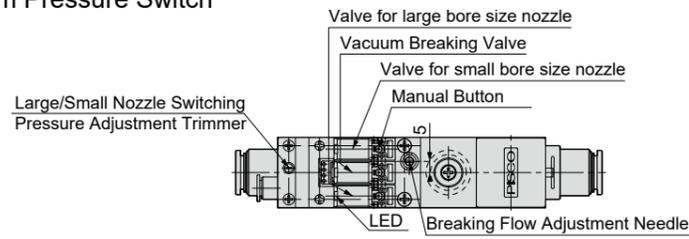


Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	6	11.1	-	-
	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

External Dimensions Diagram (Twin Nozzle Type, Atmospheric Release Type)

●Without Vacuum Pressure Switch

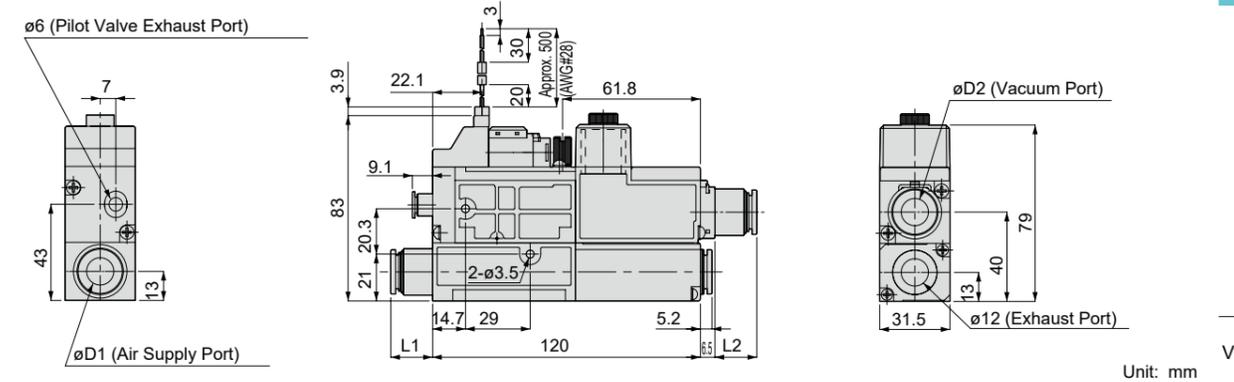
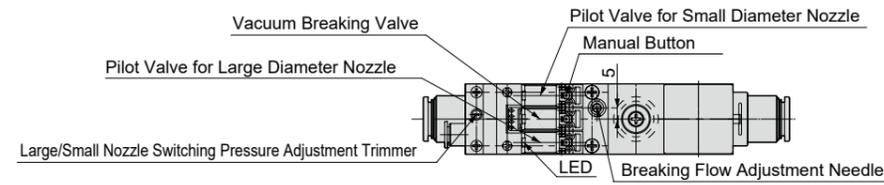


Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

External Dimensions Diagram (Twin Nozzle Type, Centralized Exhaust Type)

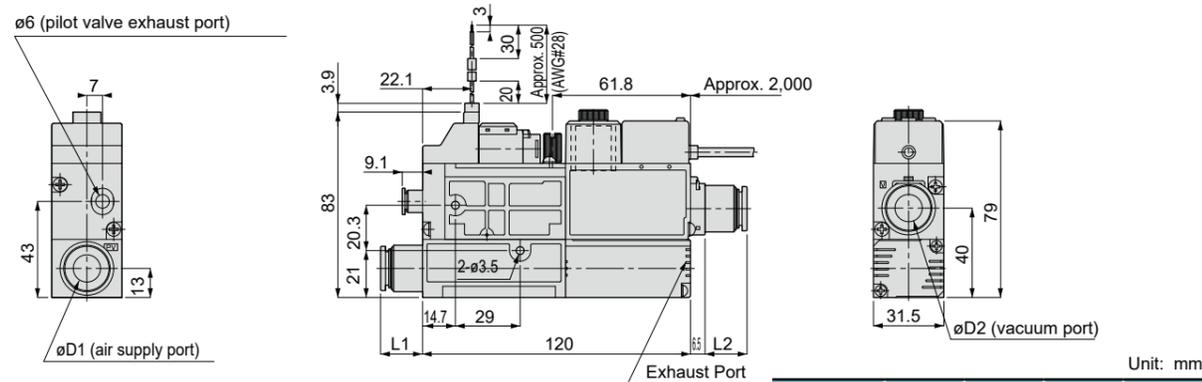
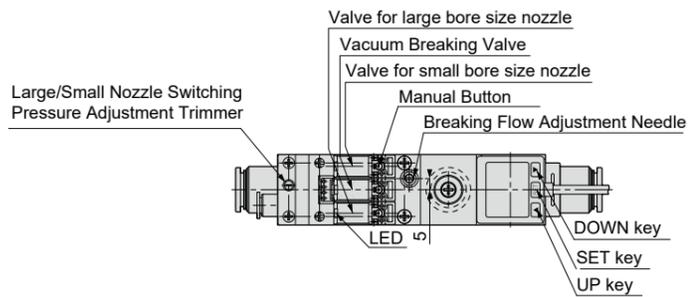
●Without Vacuum Pressure Switch



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

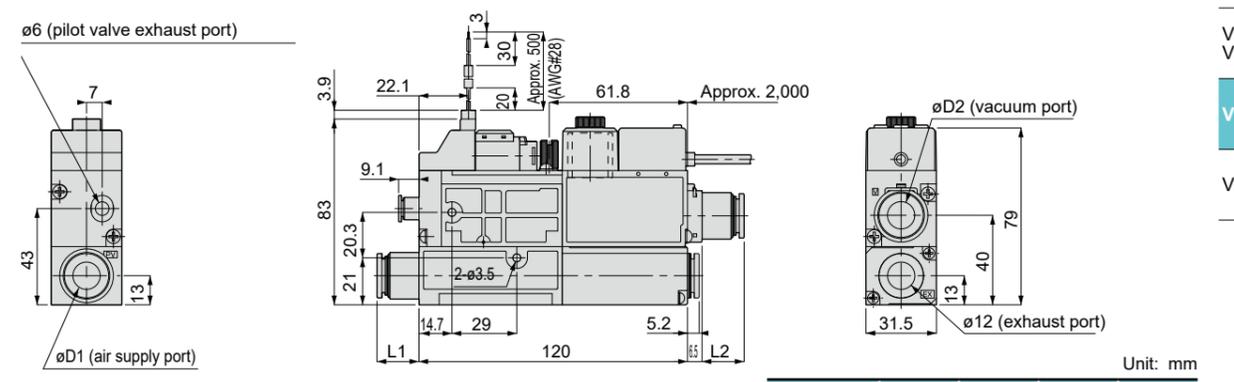
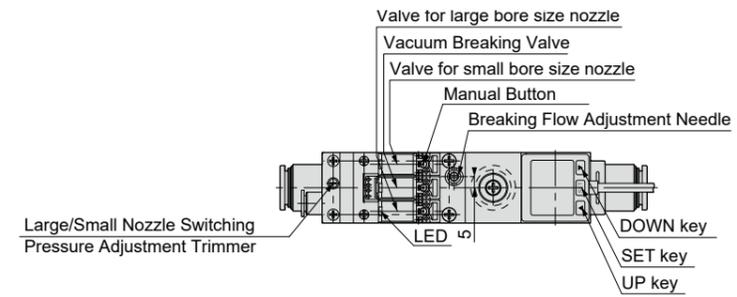
●With vacuum pressure switch and digital display



Unit: mm

	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

●With vacuum pressure switch and digital display

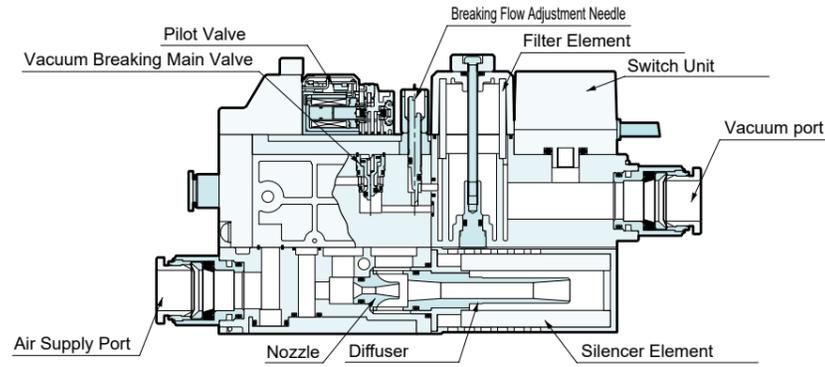


Unit: mm

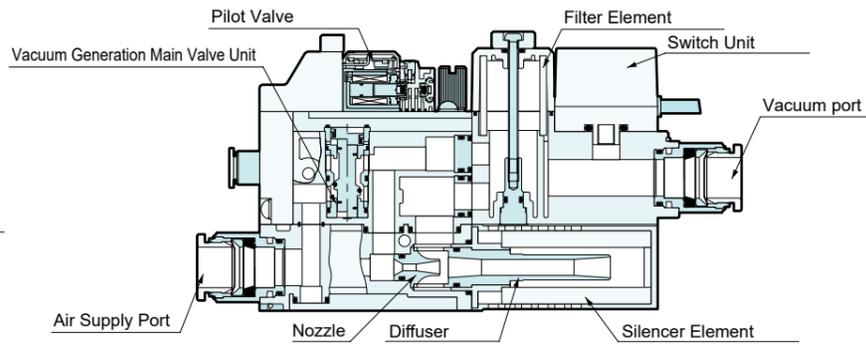
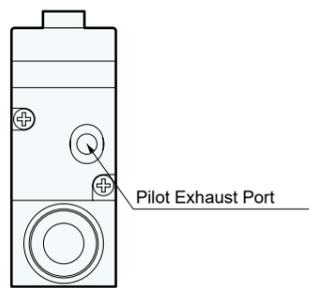
	Bore size øD1	L1	Bore size øD2	L2
Air Supply Port	8	12.2	-	-
	10	14.7	-	-
Vacuum port	-	-	8	12.2
	-	-	10	14.7

Internal Structure Diagram

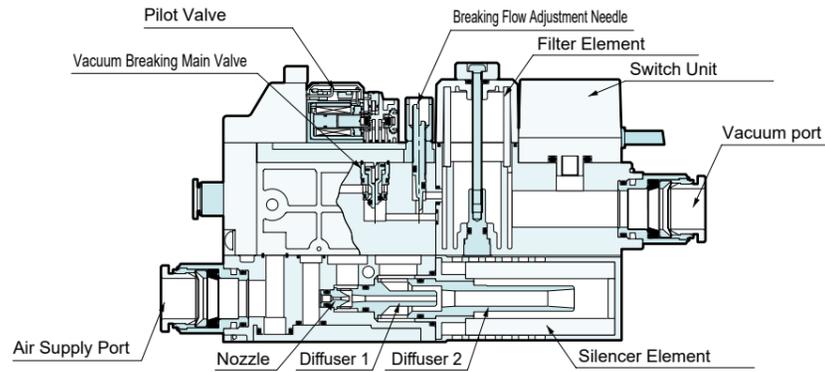
- Single Nozzle Type
- Breaking Circuit



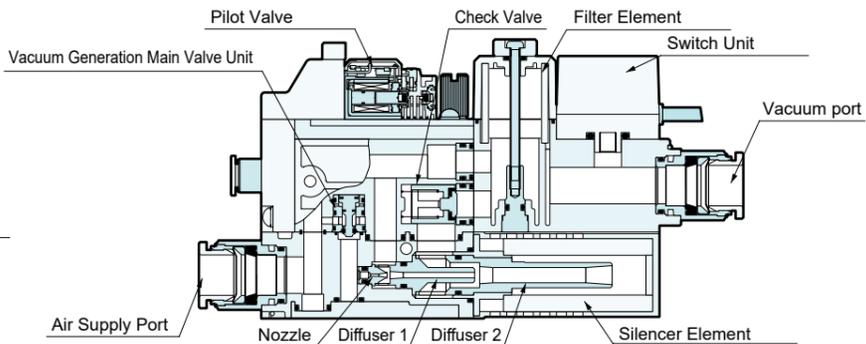
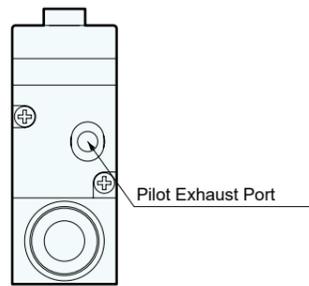
- Vacuum Circuit



- 2-Stage Nozzle Type
- Breaking Circuit

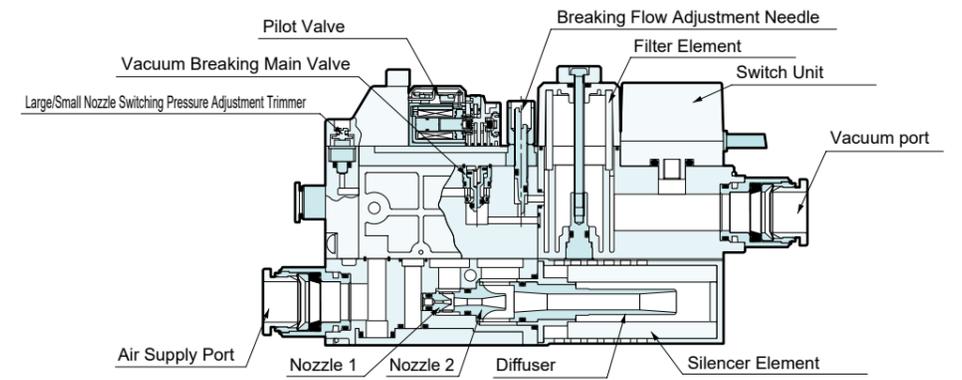


- Vacuum Circuit

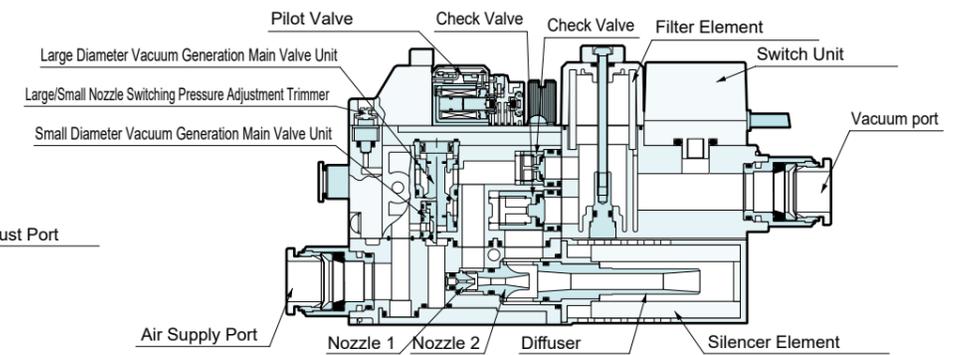
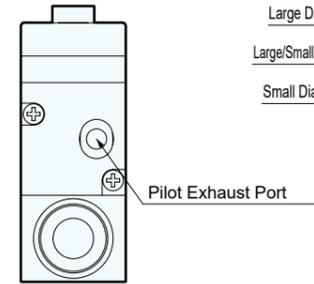


Internal Structure Diagram

- Twin Nozzle Type
- Breaking Circuit



- Vacuum Circuit



Vacuum Components
Ejector System

VSY
VSH
VSU
VSB
VSC
VSG
VSK/
VSKM
VSJ/
VSJM
VSN/
VSNM
VSX/
VSXM

VSQ
VSZM

Ending

Vacuum Components
Ejector System

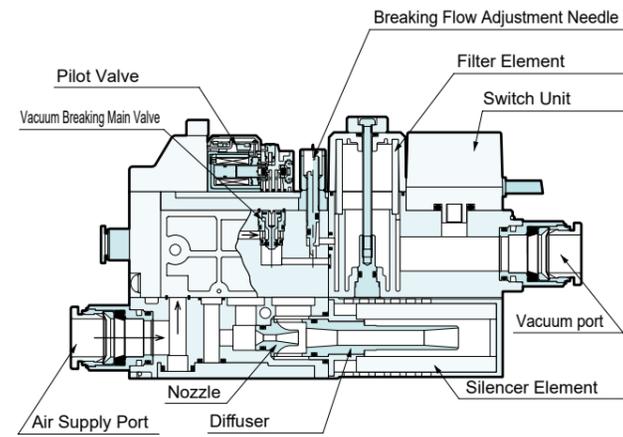
VSY
VSH
VSU
VSB
VSC
VSG
VSK/
VSKM
VSJ/
VSJM
VSN/
VSNM
VSX/
VSXM

VSQ
VSZM

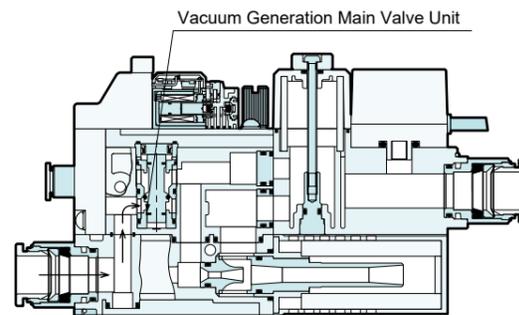
Ending

Operation Explanation Diagram (Single Nozzle Type, Normally Closed)

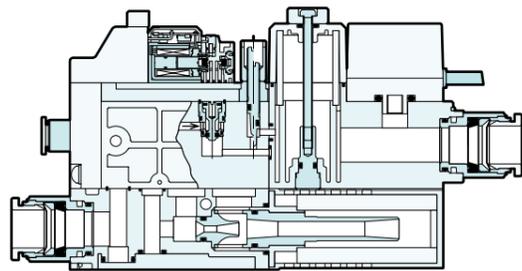
- Vacuum Generation Stopped State
- Breaking Circuit



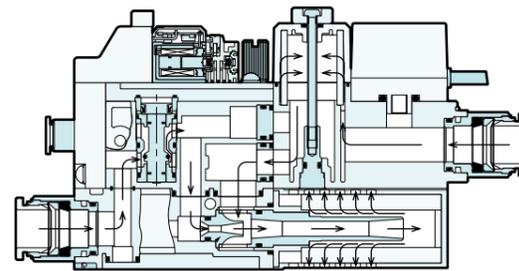
- Vacuum Circuit



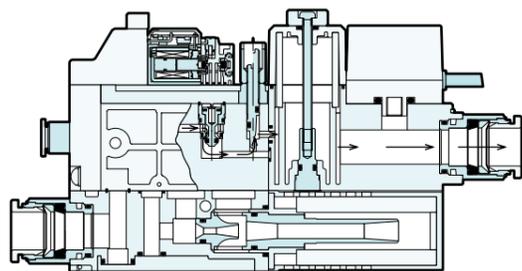
- Vacuum Generation State
- Breaking Circuit



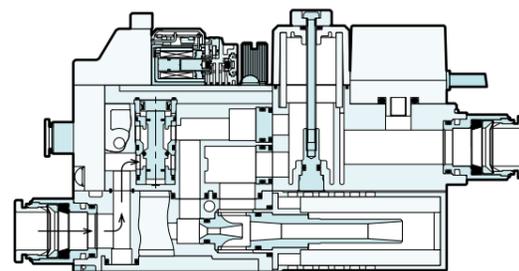
- Vacuum Circuit



- Vacuum Break Air Supply
- Breaking Circuit



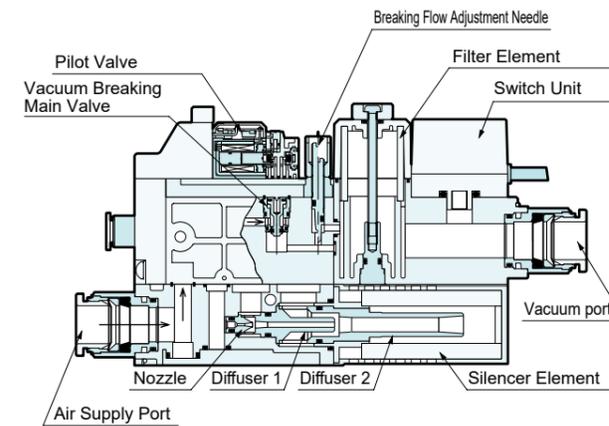
- Vacuum Circuit



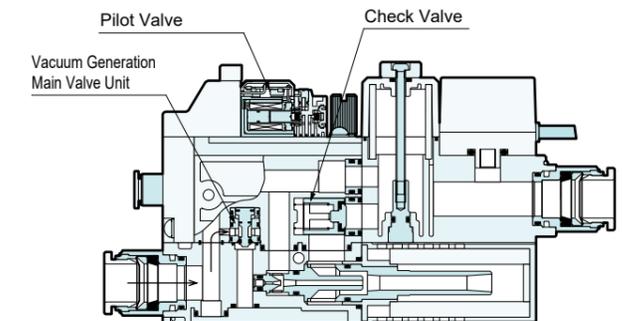
Operation Explanation Diagram

Operation Explanation Diagram (2-Stage Nozzle Type, Normally Closed)

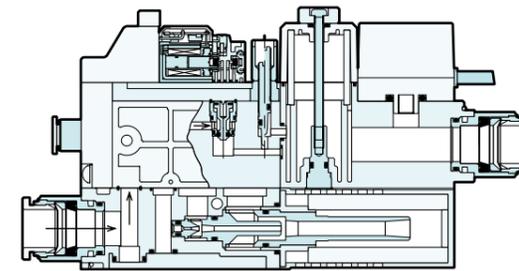
- Vacuum Generation Stopped State
- Breaking Circuit



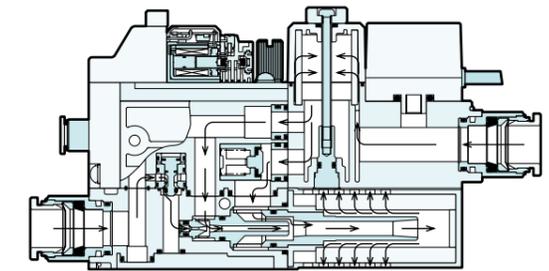
- Vacuum Circuit



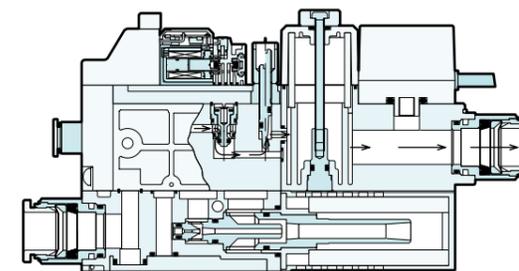
- Vacuum Generation State
- Breaking Circuit



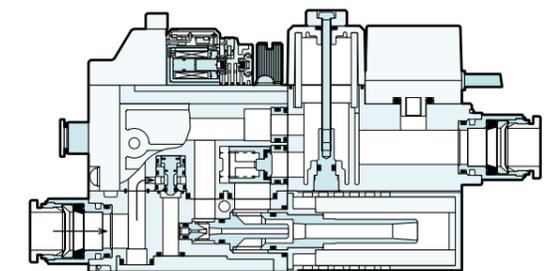
- Vacuum Circuit



- Vacuum Break Air Supply
- Breaking Circuit



- Vacuum Circuit



Vacuum Components

Ejector System

VSY

VSH

VSU

VSJ

VSC

VSG

VSK/ VSKM

VSJ/ VSJM

VSN/ VSNM

VSX/ VSXM

VSQ

VSZM

Ending

Vacuum Components

Ejector System

VSY

VSH

VSU

VSJ

VSC

VSG

VSK/ VSKM

VSJ/ VSJM

VSN/ VSNM

VSX/ VSXM

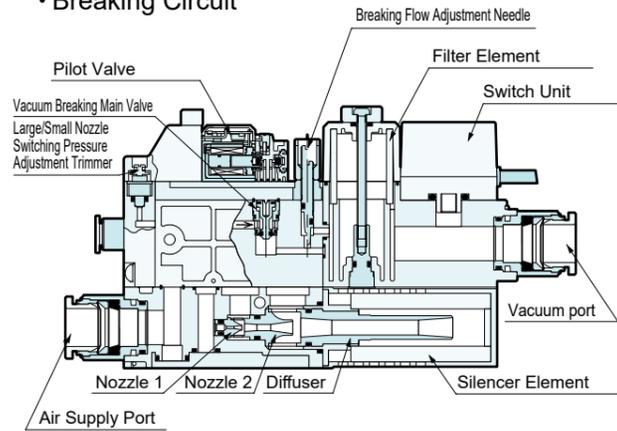
VSQ

VSZM

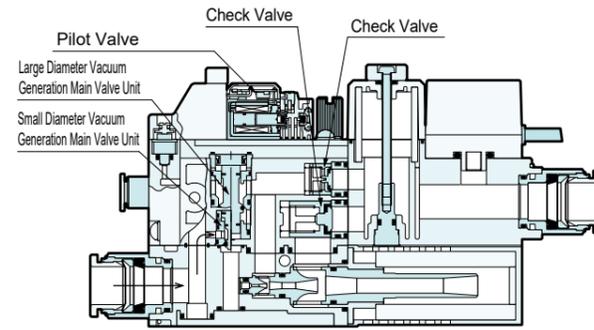
Ending

Operation Explanation Diagram (Twin Nozzle Type)

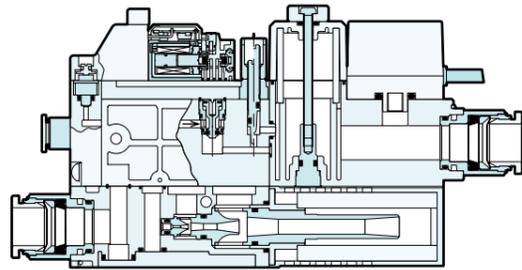
● Vacuum Generation Stopped State
• Breaking Circuit



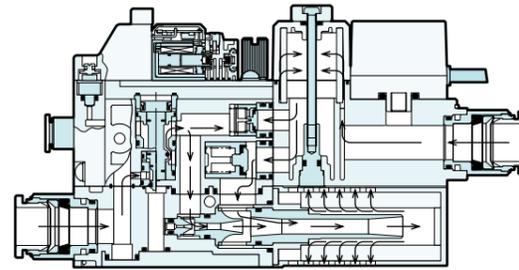
• Vacuum Circuit



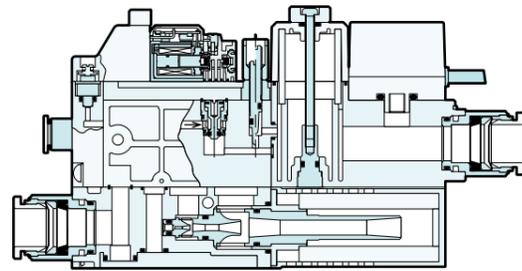
● Vacuum Generation State (Vacuum rise up to reference vacuum pressure: Large diameter nozzle) Nozzle Diameter
• Breaking Circuit



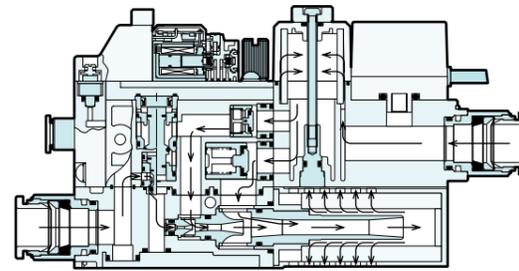
• Vacuum Circuit



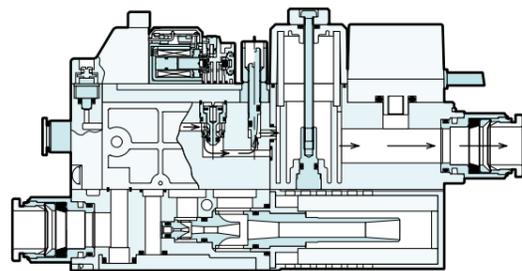
● Vacuum Generation State (Above reference vacuum pressure: Small diameter nozzle)
• Breaking Circuit



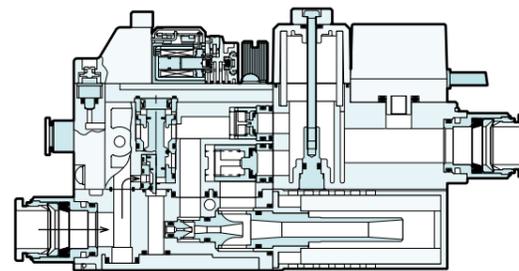
• Vacuum Circuit



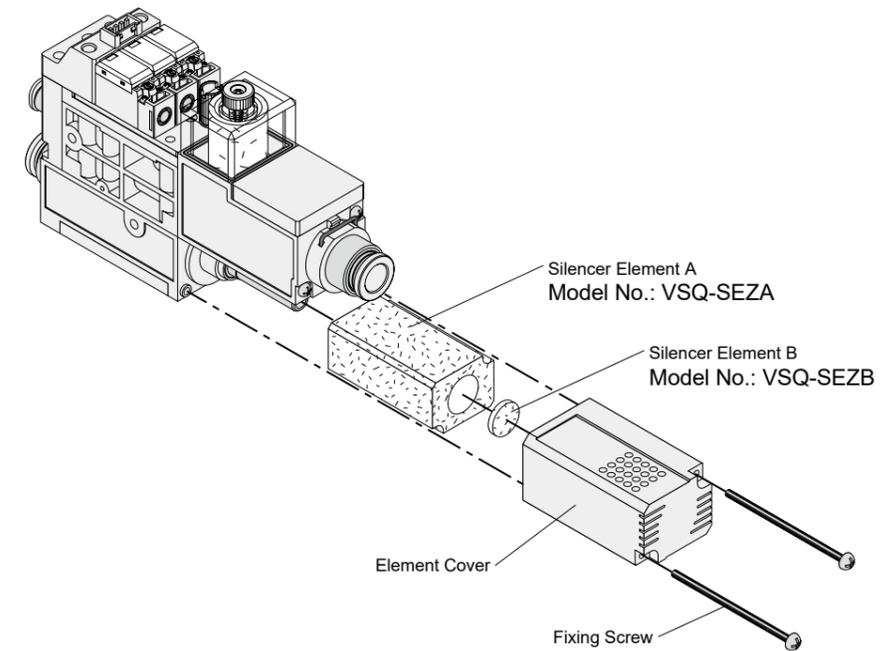
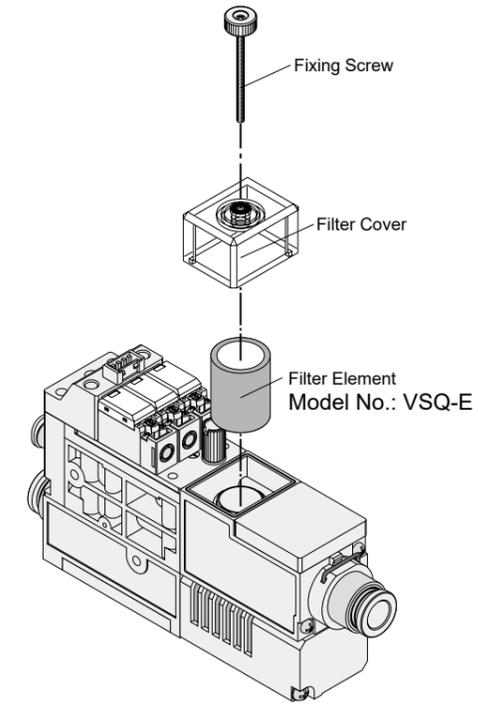
● Vacuum Break Air Supply
• Breaking Circuit



• Vacuum Circuit



Maintenance Parts



Vacuum Components

Vacuum Components

Ejector System

Ejector System

VSY

VSY

VSH

VSH

VSU

VSU

VSU

VSU

VSC

VSC

VSG

VSG

VSK/
VSKM

VSK/
VSKM

VSJ/
VSJM

VSJ/
VSJM

VSN/
VSNM

VSN/
VSNM

VSX/
VSXM

VSX/
VSXM

VSQ

VSQ

VSZM

VSZM

Ending

Ending



Pneumatic Components

To Use This Product Safely

Be sure to read this before use.

For general pneumatic components precautions, Intro Page 15 for details.

Individual Precautions: VSQ Series

Design / Selection

Warning

- For self-holding type, when pilot air supply is stopped and then restarted (including initial use after shipment), the switching valve is in the neutral state. When restarting pilot air supply, be sure to send a signal to the pilot valve or perform switching by manual operation before use.
- Make sure to turn the power OFF before wiring. Also, during wiring, check the lead wire color, terminal number, etc., and do not short the output terminal, power supply terminal, and common terminal. Shorting may potentially cause switch failure.

Caution

- To connect to an output terminal or power supply terminal (relay, valve, etc.), install a surge voltage absorption circuit. Also, avoid usage where the current exceeds the rating.
- When using a unit power supply such as switching power supply, ground the F.G. (frame ground).
- Do not short-circuit the output terminal with other terminals.
- When using the twin nozzle type, allow a margin between the vacuum level during workpiece suction and the set value of the large/small nozzle switching pressure switch. If the vacuum level and set value are equivalent, the large/small diameter pilot valves may operate consecutively.

MEMO

Vacuum
Components

Ejector System

VSX

VSH

VSU

VSX

VSC

VSG

VSK/
VSKM

VSJ/
VSJM

VSN/
VSNM

VSX/
VSXM

VSQ

VSZM

Ending

Vacuum
Components

Ejector System

VSX

VSH

VSU

VSX

VSC

VSG

VSK/
VSKM

VSJ/
VSJM

VSN/
VSNM

VSX/
VSXM

VSQ

VSZM

Ending

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](#).