

Integrated Type Vacuum Ejector Units with Blow-off Air Flow Rate & Relief Pressure Adjusting Needle

# VSJ Series

● Nozzle diameter:  $\phi 0.5$ ,  $\phi 0.7$ ,  $\phi 1.0$ ,  $\phi 1.2$



## Specifications

Item	VSJ
Operating Fluid	Air
Operating Pressure MPa	0.3 to 0.7
Ambient/Fluid Temperatures (°C)	5 to 50

## 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))
VSJ-H05...	0.5	0.5	90.4	7	11.5
VSJ-L05...		0.35	66.5	12	11.5
VSJ-H07...	0.7	0.5	93.1	13	23
VSJ-L07...		0.5	66.5	(24) 26	23
VSJ-E07...		0.35	90.4	10.5	17
VSJ-H10...	1.0	0.5	93.1	27	46
VSJ-L10...		0.5	66.5	(34) 40	46
VSJ-E10...		0.35	90.4	21	34
VSJ-H12...		0.5	93.1	(32) 38	70
VSJ-E12...	1.2	0.35	90.4	(24) 27	47

Note: Values in ( ) are for vacuum port:  $\phi 4$  push-in fitting.

## Valve (for Vacuum Generation, Vacuum Breaking) Specifications

● Pilot solenoid valve

Item	Vacuum Generation Valve	Vacuum Breaking Valve
Valve Type and Operation Method	Direct acting poppet valve	
Rated Voltage (V)	24 VDC	24 VDC
Voltage Fluctuation Range (V)	DC 24 $\pm 10\%$	DC 24 $\pm 10\%$
Surge Protection Circuit	Varistor	Varistor
Power Consumption	1.2 W (with LED)	1.2 W (with LED)
Manual Override	Push type non-locking type	
Operation Indicator	At coil excitation operation: Red LED lights	
Wiring Method	Connector type (Cable length: 500 mm)	
	Red: 24 VDC Black: COM	Red: 24 VDC Black: COM

● Main valve

Item	Vacuum Generation Valve	Vacuum Breaking Valve
Valve Type and Operation Method	Pilot operated poppet valve	
Proof Pressure MPa	1.05	
Valve Type	Self-holding, Normally Closed, Normally Open	Normally Closed
Lubrication	Not required	
Effective Area (mm <sup>2</sup> )	Air Supply (PS) Port Size	1
	$\phi 4$ : 3.5 $\phi 6$ : 5	

## Vacuum Pressure Switch with LED Display Specifications

Item	With 2-point Switch Output (-W)	With Analog Output (-A)
Factory Set Value (kPa)	-50 (SW1), -10 (SW2)	-50
Current Consumption (mA)	$\leq 40$	
Pressure Sensing Element	Diffused Semiconductor Pressure Switch	
Working pressure kPa	-100 to 0	
Set Pressure (kPa)	-99 to 0	
Proof Pressure MPa	0.2	
Storage Temperature (°C)	-20 to 80 (Atmospheric pressure, $\leq 60\%$ RH humidity)	
Operating Temperature (°C)	0 to 50 (However, no freezing)	
Operating Humidity	35 to 85% RH (no freezing)	
Power Supply Voltage (V)	DC 12 to 24 $\pm 10\%$ Ripple (P-P) $\leq 10\%$	
Protection Structure	Equivalent to IEC Standard IP40	
Number of Output Points	2	1
Repeatability	$\pm 3\%$ F.S. max (at Ta=25°C)	
Differential	Fixed ( $\leq 2\%$ F.S. max.)	Variable (Approx. 0 to 15% of set value)
Switch Output	NPN Transistor Open Collector Output $\leq 30$ V 80 mA Residual Voltage $\leq 0.8$ V	
Analog Output	Output Voltage (V)	1 to 5
	Zero Point Voltage (V)	1 $\pm$ 0.1
	Span Voltage (V)	4 $\pm$ 0.1
	Output Current (mA)	$\leq 1$ (Load resistance $\geq 5$ k $\Omega$ )
	Linearity/Hysteresis	$\pm 0.5\%$ F.S. max.
Response time ms	2 max.	
Display kPa	-99 to 0 (2-digit Red LED display)	
Display Update Rate	Approx. 4 times/1 second	
Display Accuracy	$\pm 3\%$ F.S. $\pm 2$ digit	
Resolution	1 digit	
Operation Indicator	SW1: Red LED lights up at or above set pressure SW2: Green LED lights up at or above set pressure	Red LED lights up at or above set pressure
	1. MODE Switch (ME or S1 or S2) 2. S1 Setting Trimmer (2/3 turn trimmer) 3. S2 Setting Trimmer (2/3 turn trimmer)	1. MODE Switch (ME or SW) 2. SW Setting Trimmer (2/3 turn trimmer) 3. HYS Setting Trimmer (Approx. 0 to 15% of set value)

## Vacuum Breaking Function Specifications

Item	Vacuum Breaking Function
Break Air Flow Rate L/min (ANR)	0 to 50 (at 0.5 MPa supply pressure)
Breaking Air Relief Valve Structure	Elastomer seal, poppet valve
Relief Pressure Setting Range (kPa)	-25 to 25

## Vacuum Filter Specifications

Item	Vacuum Filter
Element Material	Polyvinyl formal
Filtration Rating $\mu\text{m}$	10
Filtration area mm <sup>2</sup>	1,130

For details,



CKD components Products website (<https://www.ckd.co.jp/kiki/en/>) → Refer to "Model No."

P4 Series

Compatibility table by variation

	VSJ	VSJM
Connection Port Size	ø4, ø6, ø8	ø4, ø6, ø8, ø10
P4	●	●

●: Applicable Models ○: Semi-Applicable models  
▲: Please inquire □: Not applicable

\*1: Applicable only for common exhaust.

Model No. Notation Method (Single Unit Type)

●20 mm width integrated vacuum ejector unit, discrete

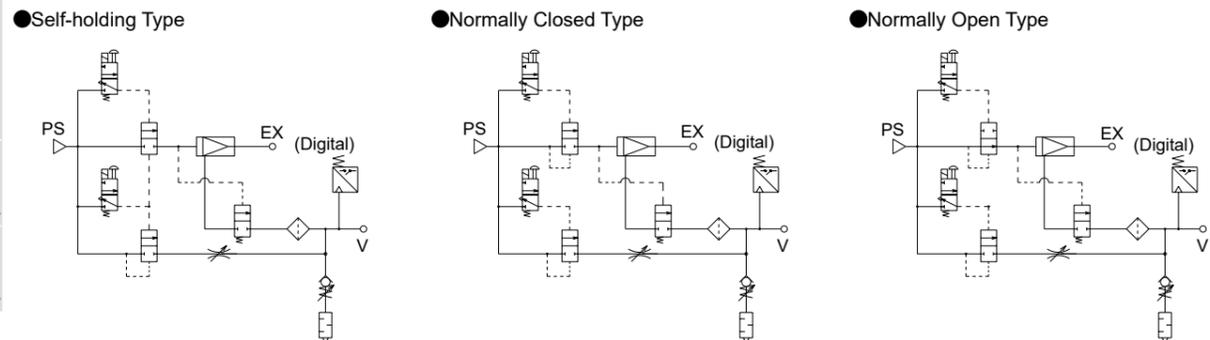
**VSJ - H 07 A - 6 6 8 - 3 - W - P4**

Code	Content
<b>A Vacuum characteristics</b> *1	
H	High Vacuum/Medium Flow Type
L	Medium Vacuum/High Flow Type
E	High Vacuum/Low Flow Type
<b>B Nozzle diameter</b> *1	
05	ø0.5
07	ø0.7
10	ø1.0
12	ø1.2
<b>C Valve Type</b>	
A	Normally Open Type
B	Normally Closed Type
D	Self-holding Type
<b>D Vacuum Port (V)</b>	
4	ø4 Push-in fitting
6	ø6 Push-in fitting
8	ø8 Push-in fitting
<b>E Air Supply Port (PS)</b>	
4	ø4 Push-in fitting
6	ø6 Push-in fitting
<b>F Exhaust Port (EX)</b>	
8	ø8 Push-in fitting centralized exhaust
<b>G Solenoid Valve Voltage</b>	
3	24 VDC
<b>H Vacuum Pressure Switch Specifications</b>	
Blank	Without Vacuum Pressure Switch
W	NPN Output 2 points with Digital Display
A	NPN Output 1 point + Analog Output with Digital Display

Notes for model No. Selection

\*1: "E05" and "L12" cannot be combined with A and B

Circuit Diagram



Model No. Notation Method (Manifold Type)

●20 mm width integrated vacuum ejector unit manifold

**VSJM - H 07 A - 8 8 10 - 3 - 10 A - W - P4**

Code	Content
<b>A Vacuum characteristics</b> *1	
H	High Vacuum/Medium Flow Type
L	Medium Vacuum/High Flow Type
E	High Vacuum/Low Flow Type
<b>B Nozzle diameter</b> *1	
05	ø0.5
07	ø0.7
10	ø1.0
12	ø1.2
<b>C Valve Type</b>	
A	Normally Open Type
B	Normally Closed Type
D	Self-holding Type
<b>D Vacuum Port (V)</b>	
4	ø4 Push-in fitting
6	ø6 Push-in fitting
8	ø8 Push-in fitting
<b>E Air Supply Port (PS)</b>	
6	ø6 Push-in fitting
8	ø8 Push-in fitting
10	ø10 Push-in fitting
<b>F Exhaust Port (EX)</b>	
8	ø8 Push-in fitting centralized exhaust
10	ø10 Push-in fitting centralized exhaust
<b>G Solenoid Valve Voltage</b>	
3	24 VDC
<b>H Manifold station No.</b> *2	
2	2 stations
to	to
10	10 stations
<b>I Centralized Piping Outlet Direction</b>	
A	Vacuum Port Side
B	Supply Port Side
<b>J Vacuum Pressure Switch Specifications</b>	
Blank	Without Vacuum Pressure Switch
W	NPN Output 2 points with Digital Display
A	NPN Output 1 point + Analog Output with Digital Display

Notes for model No. Selection

\*1: "E05" and "L12" cannot be combined with A and B.  
\*2: The number of stations that can operate simultaneously differs depending on the combination of nozzle diameter and port size. Contact CKD for details.

P4 Series

Pneumatic cylinders

Pneumatic actuator

Hand chuck

Related products

Cylinder switch

Vacuum Equipment

Pneumatic valves

Clean air components

Speed Controller

Fitting

Auxiliary valve

Silencer

Tube

Pneumatic auxiliary components

Speed Controller

Fitting

Auxiliary valve

Silencer

Tube

Gas Generators

Tube

Fluid Control Components

Motor specifications

Motor specifications

Electric Actuator

Motor specifications

Motor specifications

Fluid Control Components

Electric Actuator

Motor specifications

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