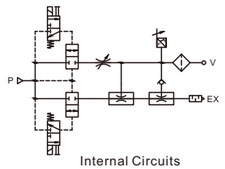
VZK Series Integrated Vacuum Ejector



Product Features

- Two-stage vacuum system, suction flow rate increased by 200%
- Automatic vacuum release control
- Energy-saving mode reduces air consumption by 90%
- Supply cut-off function (Vacuum holding upon power failure)
- Ultra-low energy consumption
- Air consumption: 19 L/min, Solenoid valve power: 1 W
- Switch output / Analog output available
- Integrated manifold mounting, easy installation
- Nozzle nominal diameter: 0.7 / 1.0 / 1.2 / 1.5 mm
- Compact and lightweight (Thickness: 15 mm)



Internal Circuits

Ordering Code

VZK Series Integrated Vacuum Ejector

VZK10 - 6 6 G □ - □ - SP - D L - 08

Vacuum (V) port

Code	Tube O.D.
4	4mm
6	6mm
8	8mm

Supply (P) port

Code	6
Port size (Tube)	6mm
Manifold port size	G1/8 Thread

Vacuum holding

Code	Specifications
Nil	Standard type (No vacuum holding)
R	Self-holding type (Vacuum holding upon power failure)
E*1)	Energy-saving type (With vacuum holding)
Z*2)	Vacuum release solenoid valve – auto type \n(No vacuum holding)

*1) "E" Energy-Saving Type \n Vacuum pressure switch control; required. \nOutput: 1. 1-wire.
*2) One signal controls vacuum + release. \nRelease: 0.2 s after signal OFF (custom). 1-wire.

Exhaust port(EX)

Code	S	G	W	F	J
Specifications	Low-noise silencer	High-noise reduction silencer	External high-flow silencer	High-flow, dust-resistant direct exhaust	Exhaust port: G1/8 \n fitting not supplied as standard
Operating pressure	0.35MPa	0.4MPa	0.4MPa	0.35MPa	0.35MPa

Nozzle bore

Code	Nozzle bore (mm)	Vacuum level (kPa)	Suction flow (L/min)	Air consumption (L/min)	Operating pressure (MPa)
07	0.7	-91	29	24	0.36
10	1.0	-91	44	40	0.37
12	1.2	-91	61	58	0.38
15	1.5	-91	67	90	0.4 to 0.45

* Data varies depending on the silencer type.

Vacuum solenoid valve specifications*1)

Code	Specifications
Nil	Vacuum on when energized (Normally closed - N.C.)
O	Vacuum valve, operates when de-energized (N.O.)
K	Normally open (NO) *2) - vacuum on when de-energized

*1) Default specification for vacuum and release valves is Normally Closed (NC). "Self-holding type" cannot select "K". "Energy-saving type" cannot select "O","K" .
*2) The Normally open (NO) vacuum valve is controlled by the pressure switch. Supply valve: Energized ON / De-energized OFF. \nVacuum pressure switch required. 1-wire.

Mounting option

Code	Mounting option
D	DIN rail mounting
B	Bracket mounting

Power supply cable specification*

Code	Specifications
Nil	1-wire
L	3-wire
L2	2-wire

* 1-wire is unified cable for valve & switch, for Energy-saving type. 3-wire is separate cables, for standard/self-holding types. Applicable only to the RS-485 output type (2-wire type).

Pressure sensor

Code	Specifications
N	Without pressure sensor
SP	NPN output (2 outputs)
SA	PNP output (2 outputs)
SB	NPN (1 outputs) + Analog output 1 to 5V
SD	PNP (1 outputs) + Analog output 1 to 5V
SPC	NPN (1 outputs) + RS485 Communication

Number of stations

Code	02	03	04	05	06	07	08	09	10
Number of stations	2	3	4	5	6	7	8	9	10

ISO9001 CE

VZK Series Integrated Vacuum Ejector

Specifications

Vacuum Generator Specification

Working medium		Air, Vacuum
Working pressure		0.3 to 0.7MPa
Vacuum pressure		-100 to 0kPa
Working temperature		5 to 50℃
Working humidity range		35 to 85%RH
Vibration resistance		50m/s² or less
Impact resistance		150m/s² or less
Enclosure		IP40
Lubrication		No
Proof pressure	Supply pressure	0.8MPa
	Vacuum pressure	0.2MPa

* Proof pressure simply means "the pressure at which the product will not be damaged", and it is the pressure at which the product can be used normally.

Supply Valve Specification

Action type		Direct acting
Control style		Normal closed
Response time	OFF→ON	8.5ms
	ON→OFF	8.5ms

* Response time is the value when supplying 0.5 MPa rated voltage (100%).

Release Valve Specification

Action type		Direct acting
Control style		Normal closed
Response time	OFF→ON	8.5ms
	ON→OFF	8.5ms

* Response time is the value when supplying 0.5 MPa rated voltage (100%).

Solenoid Valve Specification

Valve type	Supply valve, Release valve
Operating method	Direct operation
Valve construction	Direct acting type
Rated voltage	DC24V±10%
Limiting circuit	Surge absorber
Response time	4ms
Power consumption	1W
Manual override	Button structure
Operation instructions	When the coil is powered, the red indicator light comes on
Wiring method	Red : DC24V, Black : COM

Vacuum Release Control

Working medium		Air, Vacuum
Working pressure		0.3 to 0.7MPa
Vacuum pressure		-100 to 0kPa
Vacuum valve orifice diameter		4.2mm
Operating temperature and humidity range		5 to 50℃/35 to 85%RH
Vibration resistance		50m/s² or less
Impact resistance		150m/s² or less
Enclosure		IP40
Lubrication		No
Proof pressure	Supply pressure	0.8MPa
	Vacuum pressure	0.2MPa

* Proof pressure simply means "the pressure at which the product will not be damaged", and it is the pressure at which the product can be used normally.

Vacuum Pressure Valve Specification

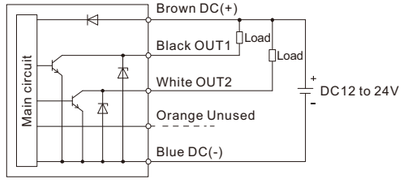
Action type		Compound pressure
Switch output		NPN, PNP
Rated pressure range		-100 to 100kPa
Display/Set pressure range		-101.2 to 110kPa
Proof pressure		Not more than 2 times the rated pressure
Power supply voltage		DC12 to 24V±10%
Current consumption		50mA or less
Display accuracy		±3%F.S.or less (Ambient temperature 25℃)
Switch output	Control output	Load voltage: DC30V or less
		Load current: 100mA or less
	Hysteresis value	Residual voltage: 1V or less
	Repeatability	Minimum display unit
	Response accuracy	±0.2%F.S.
	Short circuit protection	2.5ms, 5ms, 100ms, 500ms optional
Analog output		Built-in
		Output voltage: DC1~5V±2%
		Resolution: 1/200
		Linearity:±2%F.S. or less
		Output impedance:1kΩ
Display		10:37 segment LED display

* A tolerance of ±3% F.S. is provided for changes in the "zero voltage", "span voltage" and "switching output setting value" in response to repeated application of pressure.

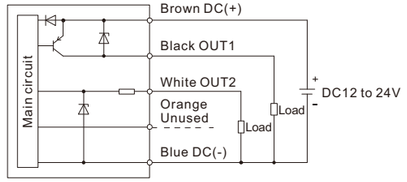
VZK Series Integrated Vacuum Ejector

Output Connection Diagram

Wiring method for VZK Series Vacuum Pressure Switch



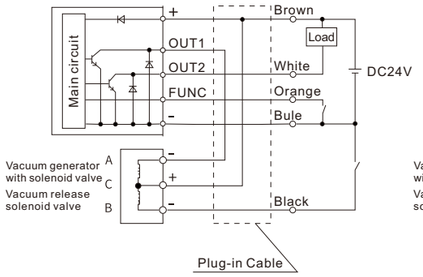
Output NPN Type



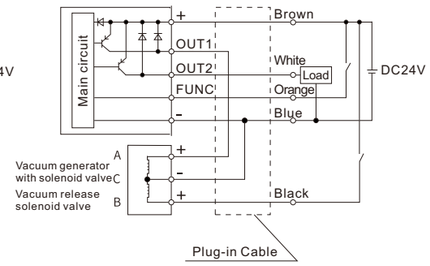
Output PNP Type

Brown: DC+
Black: Output 1
White: Output 2 (Analog Output)
Orange: Unused
Blue: 0V

Wiring method for Energy-saving Type



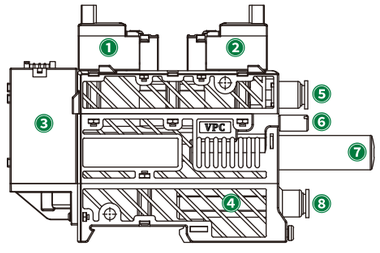
Output NPN Type



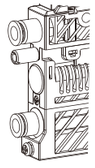
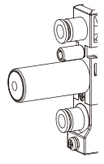
Output PNP Type

Brown: DC+(Positive)
Black: Vacuum release control
White: Output 2 (Analog output)
Orange: Suction command input
Blue: DC-(Negative)

Product Components



1. Vacuum Supply Solenoid Valve
2. Vacuum Release Solenoid Valve
3. Thin Digital Vacuum Pressure Switch
4. Suction Filter
5. Supply Port (P)
6. Vacuum Release Flow Adjustment Needle
7. Silencer Exhaust (EX)
8. Vacuum Port (X)

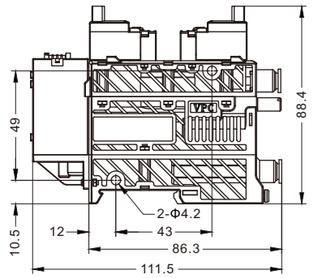
Silencer Exhaust (EX)		
		
Built-in silencer exhaust	Threaded port exhaust connection	External high-performance silencer exhaust

ISO9001 CE

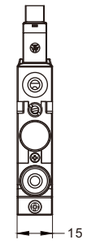
VZK Series Integrated Vacuum Ejector

Main Dimensions

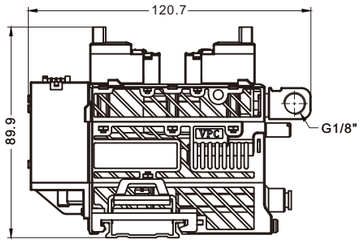
Built-in Silencer Type



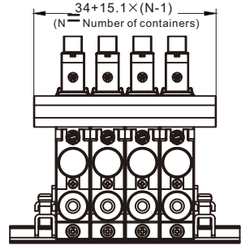
(Single Unit - Front View)



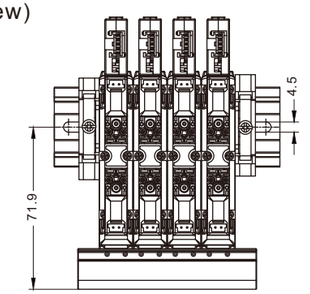
(Single Unit - Side View)



(Manifold - Front View)

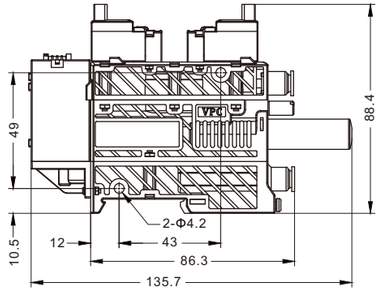


(Manifold - Side View)

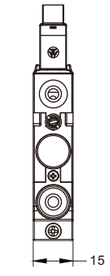


(Manifold - Top View)

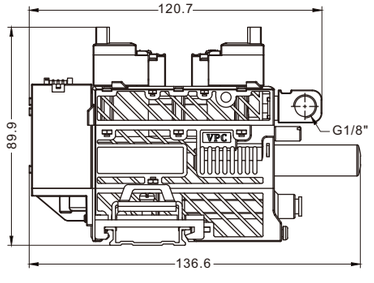
External High-noise Reduction Silencer Type



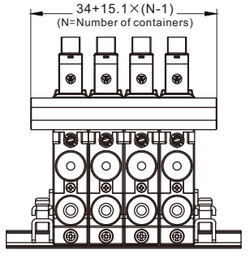
(Single Unit - Front View)



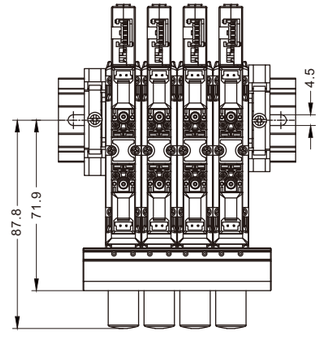
(Single Unit - Side View)



(Manifold - Front View)



(Manifold - Side View)



(Manifold - Top View)