

Vacuum Switching Units ideal for large flow rate vacuum pressure control

VSQP Series



VSQP Series Specifications

P4 Series

P4 Series

Pneumatic actuator

Pneumatic actuator

Vacuum Equipment

Vacuum Equipment

Pneumatic valves

Pneumatic valves

Pneumatic auxiliary components

Pneumatic auxiliary components

Gas Generators

Gas Generators

Fluid Control Components

Fluid Control Components

Electric Actuator

Electric Actuator

Specifications

| Item | VSQP |
|----------------------------|------------|
| Operating Fluid | Air |
| Operating Pressure MPa | 0.3 to 0.7 |
| Ambient/Fluid Temperatures | 5 to 50 |
| Vacuum pressure kPa | -100 to 0 |

Solenoid Valve Specifications

●Pilot Valve

| Item | Pilot Valve |
|---------------------------------|--|
| Valve Type and Operation Method | Direct acting poppet valve |
| Rated Voltage (V) | 24 VDC |
| Voltage Fluctuation Range (V) | 24 DC ±10% |
| Surge Suppressor | Varistor |
| Power Consumption | 0.55 W |
| Manual Override | Push locking |
| Operation Indicator | At coil excitation operation: Red LED lights |

●Switching valve

| Item | Vacuum Supply 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) | 16.5 (0.89) | 3.5 (0.19) |

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 Temp (Storage) (°C) | -10 to 60 (No condensation or freezing) |
| | Ambient Temp (Operating) (°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 Output | 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

| Item | Black | Gray | Blue | Brown |
|-----------------------------------|-----------------------|---------------------|--------|-------------------|
| 24 VDC Plus Common Specification | Vacuum Generation (-) | Vacuum Breaking (-) | - (*1) | 24 VDC (+ common) |
| 24 VDC Minus Common Specification | Vacuum Generation (+) | Vacuum Breaking (+) | - (*1) | 0 V (- common) |

*1: For this model, the attached blue lead wire is not used.

For details,



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

Compatibility table by variation

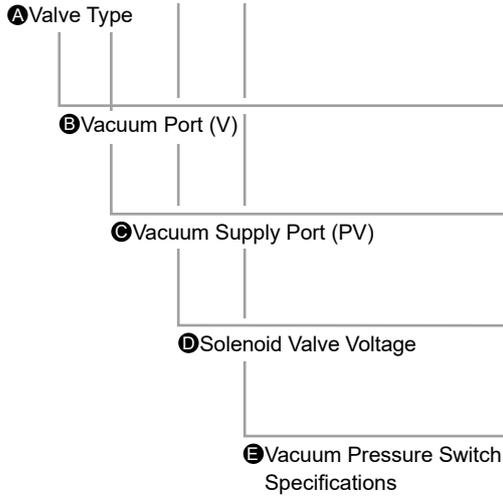
| VSQP | |
|----------------------|----------|
| Connection Port Size | ø10, ø12 |
| P4 | ● |

●: Applicable Models ○: Semi-Applicable models ▲: Contact CKD for details. □: Not applicable

Model No. Notation Method

● 31.5mm width Discrete dedicated vacuum switching unit

VSQP - B 10 10 - 3 - R - P4



| Code | Content |
|--|--|
| A Valve Type | |
| A | Normally Open Type |
| B | Normally Closed Type |
| B Vacuum Port (V) | |
| 10 | ø10 Push-in fitting |
| 12 | ø12 Push-in fitting |
| C Vacuum Supply Port (PV) | |
| 10 | ø10 Push-in fitting |
| 12 | ø12 Push-in fitting |
| D Solenoid Valve Voltage | |
| 3 | 24 VDC (Positive Common specification) |
| 3MC | 24 VDC (Negative Common specification) |
| E Vacuum Pressure Switch Specifications | |
| Blank | Without Vacuum Pressure Switch |
| R | NPN Output 2 points with Digital Display |
| RP | PNP Output 2 points with Digital Display |

Circuit Diagram

● Normally Closed Type

