Compact Vacuum Ejector
Series ZA

Response time 40 ms
Response time for up to –60 kPa
Nozzle diameter: ø0.7
Piping: ø4/ø2.5 x 100 mm

Able to install on the moving parts
Shortened tube length to pad makes the response time improved.

Weight 50 g
Possible to be mounted on moving parts thanks to lightweight

Total length 72.9 mm
Total width 9.9 mm
Total height 52.5 mm

Supply pilot valve
- Normally closed
- Latching

Release valve
- Normally closed

Available with or without pressure sensor
- 0 to –101 kPa
- –100 to 100 kPa

Suction filter
- Nominal filtration rating: 30 µm
Compact Vacuum Ejector
Series ZA

How to Order

Ejector Unit

ZA1 07 1 - K1 5 L P1 0 1

Nozzle nominal size:
- Ø5 0.5
- Ø7 0.7

Solenoid valve combination (Refer to Table (1).)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Supply pilot valve</th>
<th>Release valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>Normally closed</td>
<td>Normally closed</td>
</tr>
<tr>
<td>J1</td>
<td>Normally closed</td>
<td>None</td>
</tr>
<tr>
<td>Q1</td>
<td>Latching positive common</td>
<td>Normally closed</td>
</tr>
<tr>
<td>Q2</td>
<td>Latching positive common</td>
<td>None</td>
</tr>
<tr>
<td>N1</td>
<td>Latching negative common</td>
<td>Normally closed</td>
</tr>
<tr>
<td>N2</td>
<td>Latching negative common</td>
<td>None</td>
</tr>
</tbody>
</table>

Pilot valve (Refer to Table (1).)
- Nil: Standard (1 W for DC) and low wattage type (0.5 W)
- Y: DC low wattage type (0.5 W)

Power supply voltage (Refer to Table (1).)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 VAC (50/60 Hz)</td>
<td>200 VAC (50/60 Hz)</td>
<td>110 VAC (50/60 Hz)</td>
<td>220 VAC (50/60 Hz)</td>
<td>24 VDC</td>
<td>12 VDC</td>
</tr>
</tbody>
</table>

Electrical entry
- L: L plug connector, with 0.3 m lead wire, with light/surge voltage suppressor
- LO: L plug connector, without connector, with light/surge voltage suppressor
- M: M plug connector, with 0.3 m lead wire, with light/surge voltage suppressor
- MO: M plug connector, without connector, with light/surge voltage suppressor
- G: Grommet, with 0.3 m lead wire (Not available for latching and AC types.)

Table (1) Combination of Solenoid Valve, Pilot Valve and Power Supply Voltage

<table>
<thead>
<tr>
<th>Combination no.</th>
<th>Solenoid valve combination symbol</th>
<th>Pilot valve symbol</th>
<th>Applicable power supply voltage (V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 2 3 4 5 6</td>
</tr>
<tr>
<td>1</td>
<td>K1</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>2</td>
<td>K1</td>
<td>Y</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>3</td>
<td>J1</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>4</td>
<td>J1</td>
<td>Y</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>5</td>
<td>Q1</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>6</td>
<td>Q2</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>7</td>
<td>N1</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>8</td>
<td>N2</td>
<td>Nil</td>
<td>● ● ● ● ● ●</td>
</tr>
</tbody>
</table>

Table (2) Combination of Solenoid Valve, Pilot Valve and Power Supply Voltage

<table>
<thead>
<tr>
<th>Power supply voltage (V)</th>
<th>1 2 3 4 5 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 VAC (50/60 Hz)</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>200 VAC (50/60 Hz)</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>110 VAC (50/60 Hz)</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>220 VAC (50/60 Hz)</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>24 VDC</td>
<td>● ● ● ● ● ●</td>
</tr>
<tr>
<td>12 VDC</td>
<td>● ● ● ● ● ●</td>
</tr>
</tbody>
</table>

Vacuum (V) port
- Symbol: Applicable tubing O.D.
- 1: 3.2 (Straight)
- 2: 4 (Straight)
- 4: 3.2 (Elbow)
- 5: 4 (Elbow)

Air pressure supply (P) port
- Symbol: Applicable tubing O.D.
- 0: Without fitting (M3 x 0.5)
- 2: 4 (Straight)
- 4: 3.2 (Elbow)
- M: Without supply adapter

Pressure sensor specifications

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Rated pressure range and accuracy</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>With pressure sensor (0 to –101 kPa, accuracy ±2% F.S.)</td>
<td>PSE541</td>
</tr>
<tr>
<td>P1A</td>
<td>With pressure sensor (0 to –101 kPa, accuracy ±1% F.S.)</td>
<td>PSE541A</td>
</tr>
<tr>
<td>P3</td>
<td>With pressure sensor (–100 to 100 kPa, accuracy ±2% F.S.)</td>
<td>PSE543</td>
</tr>
<tr>
<td>P3A</td>
<td>With pressure sensor (–100 to 100 kPa, accuracy ±1% F.S.)</td>
<td>PSE543A</td>
</tr>
<tr>
<td>B</td>
<td>Without pressure sensor (M3 x 0.5)</td>
<td>KQ2P-04</td>
</tr>
</tbody>
</table>

Suction filter
- Nil: Non-locking push type (Tool required)
- L: Latching type: Push-locking type (Tool required)
- B: Locking type (Tool required)

Manual override
- Nil: Without suction filter
- F: With suction filter

Warning
The filter case of this suction filter is made of nylon. The product will be damaged if solvents such as alcohol or chemicals are splashed on it. Avoid using it in an atmosphere where such solvents are present.

This suction filter is exclusive to Series ZA. Do not use for other purposes.
Compact Vacuum Ejector Series ZA

How to Order

Manifold ZZA1 08 - 3 P

Number of stations
- 01 1 station
- 02 2 stations
- 08 8 stations

Maximum Simultaneous Operating Stations

<table>
<thead>
<tr>
<th>Manifold model</th>
<th>Ejector nozzle diameter</th>
<th>Ø0.5</th>
<th>Ø0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZZA1 Stations 2P</td>
<td>4 stations</td>
<td>2 stations</td>
<td></td>
</tr>
<tr>
<td>ZZA1 Stations 22</td>
<td>8 stations</td>
<td>4 stations</td>
<td></td>
</tr>
<tr>
<td>ZZA1 Stations 3P</td>
<td>8 stations</td>
<td>4 stations</td>
<td></td>
</tr>
<tr>
<td>ZZA1 Stations 6P</td>
<td>6 stations</td>
<td>3 stations</td>
<td></td>
</tr>
<tr>
<td>ZZA1 Stations -33</td>
<td>8 stations</td>
<td>8 stations</td>
<td></td>
</tr>
<tr>
<td>ZZA1 Stations -66</td>
<td>8 stations</td>
<td>6 stations</td>
<td></td>
</tr>
</tbody>
</table>

Right common air pressure supply (P) port (viewed from the vacuum (V) port side)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Applicable tubing O.D.</th>
<th>Ø0.5</th>
<th>Ø0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Without fitting (M5 x 0.8)</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4 (Straight)</td>
<td>3</td>
<td>6 (Straight)</td>
</tr>
<tr>
<td>5</td>
<td>4 (Elbow)</td>
<td>6</td>
<td>6 (Elbow)</td>
</tr>
<tr>
<td>P</td>
<td>With plug</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Left common air pressure supply (P) port (viewed from the vacuum (V) port side)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Applicable tubing O.D.</th>
<th>Ø0.5</th>
<th>Ø0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Without fitting (M5 x 0.8)</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4 (Straight)</td>
<td>3</td>
<td>6 (Straight)</td>
</tr>
<tr>
<td>5</td>
<td>4 (Elbow)</td>
<td>6</td>
<td>6 (Elbow)</td>
</tr>
<tr>
<td>P</td>
<td>With plug</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Blanking plate assembly

Note: The stations are sequentially numbered. When viewed from the side of the vacuum ports, the far left station is designated as station 1.

Manifold Ordering Example

ZZA108-2P → 1 pc.
* ZA1071-K15L-FP1-M2 → 4 pcs. (Stations 1 to 4)
* ZA1051-Q15L-FB-M1 → 3 pcs. (Stations 5 to 7)
* ZA1-BP1 → 1 pc. (Station 8)

Flow / Exhaust Characteristics (Representative values)

ZZA07 Exhaust Characteristics

Vacuum pressure (kPa)
Air consumption (L/min(ANR))
Suction flow (L/min(ANR))
Supply pressure (MPa)

ZZA05 Flow Characteristics

Supply pressure: 0.4 MPa

Vacuum pressure (kPa)
Air consumption (L/min(ANR))
Suction flow (L/min(ANR))
Supply pressure (MPa)

ZZA07 Flow Characteristics

Supply pressure: 0.45 MPa

Vacuum pressure (kPa)
Air consumption (L/min(ANR))
Suction flow (L/min(ANR))
Supply pressure (MPa)
### Specifications

#### Ejector

<table>
<thead>
<tr>
<th>Nozzle nominal diameter</th>
<th>Standard supply pressure</th>
<th>Maximum vacuum pressure</th>
<th>Maximum suction flow</th>
<th>Air consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 mm</td>
<td>0.40 MPa</td>
<td>–74 kPa</td>
<td>4 L/min (ANR)</td>
<td>12 L/min (ANR)</td>
</tr>
<tr>
<td>0.7 mm</td>
<td>0.45 MPa</td>
<td>–78 kPa</td>
<td>8 L/min (ANR)</td>
<td>28 L/min (ANR)</td>
</tr>
</tbody>
</table>

Note: The maximum vacuum pressure was determined by applying the standard supply pressure. Different supply pressures are required to determine a model.

#### Pressure Sensor

<table>
<thead>
<tr>
<th>Model</th>
<th>PSE541</th>
<th>PSE541A</th>
<th>PSE543</th>
<th>PSE543A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated pressure range</td>
<td>0 to –101 kPa</td>
<td>–100 to 100 kPa</td>
<td>500 kPa</td>
<td></td>
</tr>
<tr>
<td>Proof pressure</td>
<td>500 kPa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output impedance</td>
<td>Approx. 1 kΩ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>12 to 24 VDC ±10%, Ripple (p-p) 10% or less (with power supply polarity protection)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current consumption</td>
<td>15 mA or less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy (Ambient temperature 25°C)</td>
<td>±2% F.S. (within rated pressure range)</td>
<td>±1% F.S. (within rated pressure range)</td>
<td>±2% F.S. (within rated pressure range)</td>
<td>±1% F.S. (within rated pressure range)</td>
</tr>
<tr>
<td>Linearity</td>
<td>±0.4% F.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.2% F.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature characteristics</td>
<td>±2% F.S. (based on 25°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating humidity range</td>
<td>Operating/ Stored: 35 to 85% RH (No condensation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withstand voltage</td>
<td>1000 VAC or more, 50/60 Hz for 1 minute between terminals and housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>50 MΩ or more (500 VDC measured via megohmmeter) between terminals and housing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensor cable</td>
<td>Oilproof heavy-duty vinyl cable (ellipse), 3 cores, 2.7 x 3.2, 3 m, Conductor area: 0.15 mm², Insulator O.D.: 0.9 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: There was no malfunction confirmed when tested under the following conditions: From 10 to 500 to 10 Hz and whichever of the following is smaller: 1.5 mm amplitude or 98 m/s² acceleration in X, Y, Z direction for 2 hours each. (initial value)
Compact Vacuum Ejector  
Series ZA

**Construction**

![Diagram of construction](image)

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>PBT</td>
</tr>
<tr>
<td>2</td>
<td>Valve cover</td>
<td>PBT</td>
</tr>
<tr>
<td>3</td>
<td>Poppet valve assembly</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Release flow adjusting needle assembly</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Supply adapter</td>
<td></td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Sound absorbing material</td>
<td>ZA1-SAE2</td>
</tr>
<tr>
<td>7</td>
<td>Round head combination screw</td>
<td>AC00690 (M2 x 12)</td>
</tr>
<tr>
<td>8</td>
<td>Supply pilot valve</td>
<td>VQ110-□□□</td>
</tr>
<tr>
<td>9</td>
<td>Release valve</td>
<td>VQ110-□□□</td>
</tr>
<tr>
<td>10</td>
<td>Pressure sensor</td>
<td>PSE54□□□R04</td>
</tr>
<tr>
<td>11</td>
<td>O-ring</td>
<td>KA00177</td>
</tr>
<tr>
<td>12</td>
<td>Filter element</td>
<td>ZA1-□□□</td>
</tr>
</tbody>
</table>

* For above parts of No. 7 and No. 11, the parts assembly ZA1-OP-1 (10 pcs each) is available.

**How to Order**

**Solenoid Valve**

**VQ110-□□□L**

- **Pilot valve**
  - Nil: Standard (1 W)
  - Y: Low wattage type (0.5 W)
  - L: Latching positive common
  - N: Latching negative common

- **Rated coil voltage**
  - 100 VAC
  - 200 VAC
  - 110 VAC
  - 220 VAC
  - 24 VDC
  - 12 VDC

- **Manual override**
  - Nil: Non-locking push type (Tool required)
  - B: Latching type (Tool required)

- **Electrical entry**
  - L: L plug connector, with 0.3 m lead wire
  - LO: L plug connector, without connector, with light/surge voltage suppressor
  - M: M plug connector, with 0.3 m lead wire
  - MO: M plug connector, without connector, with light/surge voltage suppressor
  - G: Grommet, with 0.3 m lead wire

**Pressure Sensor**

**PSE54□□□-R04**

- **Rated pressure range**
  - 1: 0 to −101 kPa
  - 3: −100 to 100 kPa

- **Accuracy**
  - Nil: ±2% F.S. or less
  - A: ±1% F.S. or less

**How to order connector assembly**

- **DC**
  - Single: AXT661-14A
  - Latching: AXT661-13A
  - DC negative common: AXT661-13AN
  - 100 VAC
    - Single: AXT661-31A
    - Latching: AXT661-32A
  - 200 VAC
    - Single: AXT661-34A
    - Latching: AXT661-35A

- **Connector, socket (3 pcs) only**
  - AXT661-12A

**Lead wire length**

- Nil: 300 mm
- 6: 600 mm
- 10: 1000 mm
- 20: 2000 mm
- 30: 3000 mm

**Lead-wire length of the plug connector**

The lead-wire length for a valve with a lead-wire is 300 mm. When in need of a valve with a lead-wire longer than 600 mm, place an order for a valve without a connector and connector assembly.
Series ZA

Dimensions

Type K1
ZA1□□□□-K1□□□□

Circuit diagram

Dimensions of the vacuum (V) and air pressure supply (P) port fittings after installation

Dimensions after the fittings are installed on the vacuum (V) port, and air pressure supply (P) port of a single unit are shown below.

Dimensions of the vacuum (V) port fittings after installation

Dimensions of the air pressure supply (P) port fittings after installation
Dimensions of the vacuum (V) and air pressure supply (P) port fittings after installation

Dimensions after the fittings are installed on the vacuum (V) port, and air pressure supply (P) port of a single unit are shown below.

Note) When the body is mounted, tighten with a torque of 0.6 ± 0.06 N·m. Using excessive torque may cause damage to the body.
Dimensions of the vacuum (V) and air pressure supply (P) port fittings after installation

Dimensions after the fittings are installed on the vacuum (V) port, and air pressure supply (P) port of a single unit are shown below.

Note) When the body is mounted, tighten with a torque of 0.6 ± 0.06 N·m. Using excessive torque may cause damage to the body.
Dimensions of the vacuum (V) and air pressure supply (P) port fittings after installation

Dimensions after the fittings are installed on the vacuum (V) port, and air pressure supply (P) port of a single unit are shown below.
Series ZA

Dimensions

Manifold type (Common SUP)

ZZA1 M1

*ZA1-1-[M1]-M1

Dimensions (mm)

<table>
<thead>
<tr>
<th>Manifold part no.</th>
<th>Stations n</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZZA101-M1</td>
<td>1</td>
<td>10</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>ZZA102-M1</td>
<td>2</td>
<td>20</td>
<td>30</td>
<td>38</td>
</tr>
<tr>
<td>ZZA103-M1</td>
<td>3</td>
<td>30</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>ZZA104-M1</td>
<td>4</td>
<td>40</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td>ZZA105-M1</td>
<td>5</td>
<td>50</td>
<td>60</td>
<td>68</td>
</tr>
<tr>
<td>ZZA106-M1</td>
<td>6</td>
<td>60</td>
<td>70</td>
<td>78</td>
</tr>
<tr>
<td>ZZA107-M1</td>
<td>7</td>
<td>70</td>
<td>80</td>
<td>88</td>
</tr>
<tr>
<td>ZZA108-M1</td>
<td>8</td>
<td>80</td>
<td>90</td>
<td>98</td>
</tr>
</tbody>
</table>

Note 1) The above dimensions are for ZZA103-00.
Note 2) When the body is mounted, tighten with a torque of 0.6 ± 0.06 N·m. Using excessive torque may cause damage to the body.
Note 3) When viewed from the manifold base, count the number of stations 1, 2 to (n) beginning from the left side.

Dimensions of the vacuum (V) and air pressure supply (P) port fittings after installation

Dimensions after the fittings are installed on the vacuum (V) port, and the common air pressure supply (P) port of a manifold are shown below.

Release button dimensions:

KQ2S04-M5N

Dimensions after the fittings are installed on the common air pressure supply (P) port

Note: The above drawings show the vacuum port from the front with the fitting attached on the right side. It is the same as when the fitting is attached on the left side.
Blanking plate assembly
ZA1-BP1
(O-ring and round head combination screws
AC00690 (M2 x 12) are attached.)

Manifold base
ZZA10

* An assembly kit (part no. ZA1-OP-1) is available
which includes 10 pcs each of O-rings and
round head combination screws.
**Warning**

1. Avoid energizing the solenoid valve for long periods of time.

If a solenoid valve is energized for a long period of time, the coil will get hot and the performance may be reduced. Additionally, the peripheral equipment in close proximity may also be badly affected. Use a low wattage solenoid valve when the solenoid valve is energized continuously or when the duration of the energization is longer than the non-energized period each day. Periods of energization can be shortened by using a latching type solenoid valve. But, do not energize the coil on both A and B sides simultaneously when using the latching type. Continuous energization of the solenoid valve should be less than 10 minutes in duration and the energization period should be shorter than the non-energized period. Take measures for any heat radiation so that the temperature is within the range of solenoid valve specifications when the solenoid valve is mounted on the control panel. Please pay special attention to any temperature increases when a manifold type with 3 stations or more is energized continuously or when three individual units are placed in close proximity.

2. Use the vacuum equipment within the operating supply pressure range.

When the operating with a lower supply pressure, the vacuum performance will be reduced and the poppet valve will cause malfunction. Never use the vacuum equipment more than the operating supply pressure range as this may cause damage to the product resulting in potentially dangerous operation.

3. Suspension of operation for long periods of time

Please use caution — as detailed below — when the vacuum equipment is turned off for periods in excess of 6 hours.
- Be sure to turn off the power supply to the vacuum equipment.
- Please observe this precautions as the supply pressure will be applied for a extra period of time due to the line pressure increase and may result in damage to the vacuum equipment.
- Be sure to turn off the power supply to the solenoid valve and the pressure switch.
- Please observe this precautions as any heat generated due to the length of energization time may seriously affect the vacuum equipment and peripheral equipment resulting in potentially dangerous operation.

4. Exhaust port (EXH port) on the vacuum ejector

Please check the exhaust port (EXH port) on the vacuum ejector, so that any exhaust resistance will not be increased due to insulating materials or restrictions in the piping. The exhaust resistance may reduce the ejector's performance. Additionally, never use this product in an application where the exhaust port is blocked when detaching a workpiece. This misuse may result in possible damage to the product.

5. Vacuum release flow adjusting needle

Adjust the vacuum release flow adjusting needle from the fully closed to the open state by 1/8 to 1/4 turns to detach a workpiece completely during the ON time of a release valve. Do not supply compressed air while the vacuum release flow adjusting needle is adjusted. Securely lock it with a lock nut after adjustment.

**Warning**

6. How to use the latching type solenoid valve

Our Latching type solenoid are fitted with a self-detaining mechanism. Its construction features an armature inside the solenoid which is set or reset using spontaneous energization. (20 ms or greater) Therefore, continuous energization is not required.

How to Use the Latching Type Plug Connector

**Wiring specifications**
- Wiring should be connected as shown below. Connect with the power supply respectively.

**DC positive common**
- Set (Vacuum generation)
- COM.
- Reset (Vacuum suspension)
- Lead wire colors: (+) Red, (-) Black

**DC negative common**
- Set (Vacuum generation)
- COM.
- Reset (Vacuum suspension)
- Lead wire colors: (+) Red, (-) Black

**AC type**
- Set (Vacuum generation)
- COM.
- Reset (Vacuum suspension)
- Lead wire colors: Yellow, Gray, Blue, Red

Special care must be taken for the latching type.
1. Avoid using this product with a circuit which electrifies both the set and reset signals simultaneously.
2. The minimum energization time required for self-detaining is 20 ms.
3. Please contact us when using this product in locations where there are vibration levels of 30 m/s² or above or highly magnetic fields. No problems arise in normal usage or locations.
4. This valve retains the reset position (Flow path: A → R) at the time of shipment. However, it may alters to the set position during transportation or due to vibration when mounting the valve. Therefore, confirm the home position either manually or with power supply prior to use.

7. Suction filter

This suction filter is dedicated to the ZA series. Avoid using it for other purposes.
Series ZA
Specific Product Precautions 2
Be sure to read before handling. Refer to Best Pneumatics No. 4 for Safety Instructions and Vacuum Equipment Precautions.

### Mounting

**Warning**

1. When the body is mounted, tighten with a torque of $0.6 \pm 0.06$ N-m. Using excessive torque may cause damage to the body.

2. When the filter assembly is mounted, tighten with a torque of $0.07 \pm 0.01$ N-m. Using excessive torque may cause damage to the filter case.

### Operating Environment

**Warning**

1. **Suction filter**
   
   The filter case of this suction filter is made of nylon. The product will be damaged if solvents such as alcohol or chemicals are splashed on it. Avoid using it in an atmosphere where such solvents are present.