Air Pincette Series

The air pincette, incorporating a vacuum pad and vacuum generator in the pen-shaped body, serves well in the assembly operation of small parts and inspection. You can choose pad holder shape, valve type, pad size and pad material to be suitable with your work.

Valve type

Two types of characteristics valve type are prepared.

1. VTA type: low cost with no valve incorporated.
2. VTB type: with built-in valve model which features low noise and energy saving by flowing air only during service are available.

Each type is separated to normal type and anti-static type. Anti-static type is best suitable for use on the manufacturing or assembly line that requires dissipation of static electricity and prevention of electrification. Surface resistance value is $10^4 \sim 10^8 \Omega$.

Note  VTA type may not be suitable for small or light weight workpieces due to its air flow circuit. (air pincette tip is always sucking lightly, if the work piece is too light, it will not be released after you open the side hole)

Pad Holder Type

Depending on applications, two types of pad holder are available to choose, straight type and conventional curved type. Each type has two sizes as shown in the below picture.

How to Select Holder

To choose a suitable air pincette, work-piece and application are needed to be considered.

<table>
<thead>
<tr>
<th>Holder type</th>
<th>Suitable Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight</td>
<td>• Precise work positioning work</td>
</tr>
<tr>
<td>Curved</td>
<td>• Pick and place</td>
</tr>
</tbody>
</table>
**Straight holder** is suitable for precise work or positioning work. The straight holder makes you able to turn air pincette around easily. You can pick and place your workpiece in a small area, easy to aim for the right position. Sample of usage as shown in picture 1-3.

Usage example: circuit board assembly, watch assembly etc.

**Curved holder** is suitable for pick and place work without positioning. Sample of usage as shown in picture 4-6.
Pad Size and Material

Three materials are available to choose, nitrile rubber, silicone rubber and conductive butadiene rubber with five different sizes as shown in the below picture. Please refer to table 2 for theoretical maximum suction force at vacuum level -85kPa.

<table>
<thead>
<tr>
<th>Pad type</th>
<th>Standard type (general)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pad diameter (mm)</td>
<td>φ1</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td>○</td>
</tr>
<tr>
<td>Silicone rubber</td>
<td>○</td>
</tr>
<tr>
<td>Conductive butadiene rubber*</td>
<td>○</td>
</tr>
</tbody>
</table>

*Low resistance

Table 2 Maximum suction force in grams (at vacuum level -85kPa)

<table>
<thead>
<tr>
<th>Pad diameter (mm)</th>
<th>φ1</th>
<th>φ2</th>
<th>φ3</th>
<th>φ4</th>
<th>φ6</th>
<th>φ8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max weight (g)</td>
<td>6.93</td>
<td>25.08</td>
<td>61.59</td>
<td>109.1</td>
<td>245.75</td>
<td>435.41</td>
</tr>
</tbody>
</table>

Specification

<table>
<thead>
<tr>
<th>model</th>
<th>VTA-□</th>
<th>VTA-EG</th>
<th>VTB-W</th>
<th>VTB-EG</th>
</tr>
</thead>
<tbody>
<tr>
<td>type and color</td>
<td>Without valve, white or blue</td>
<td>Without valve, black (anti-static)</td>
<td>Valve built-in, light gray</td>
<td>Valve built-in, black (anti-static)</td>
</tr>
<tr>
<td>fluid medium</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Pressure range (MPa)</td>
<td>0.15–0.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated supply pressure (MPa)</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Vacuum</td>
<td>-85</td>
<td>-80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nozzle diameter</td>
<td>φ0.5</td>
<td>φ0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suction flow rate (L/min [ANR])</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumption flow rate (L/min [ANR])</td>
<td>13.8</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Operating temp. range (°C)</td>
<td>0–60 (No freezing)</td>
<td>1×10⁴(*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. volume resistance (Ω·cm)</td>
<td>—</td>
<td>—</td>
<td>1×10⁴(*)</td>
<td></td>
</tr>
</tbody>
</table>

* For the value of conductive ABS

How to order

You can order only the air pincette or order as a set. The model designation is as below.

1.) Order air pincette with holder and vacuum pad

![Diagram with model designations and options]
2.) Order as a set

![Diagram of VTA and W set]

- **Type**
  - VTA
  - VTB

- **Color or Spec.**
  - No code (curved holder)
  - S (straight holder)
  - W (light gray)
  - BU (blue) *VTA only
  - EG (Anti-Static, Black color)

3.) Order only air pincette (without holder and vacuum pad)

![Diagram of VTA and W only]

- **Type**
  - VTA
  - VTB

- **Color or Spec.**
  - W (light gray)
  - BU (blue) *VTA only
  - EG (Anti-Static, Black color)

### How to use

- **VTA type (without valve)**

  ![Image of VTA type]

  Block the side hole to suck up work-piece. 
  *(supply compressed air 0.5MPa)*

  ![Image of VTA type release]

  Release work-piece by unblocking the side hole.

- **VTA (with valve)**

  ![Image of VTA with valve]

  Push the button to suck up work-piece. 
  *(supply compressed air 0.5MPa)*

  ![Image of VTA with valve release]

  Release work-piece by release the push button

### Air pincette set containing...

- silicone rubber (for W or BU) or conductive butadiene rubber (low resistance) (for EG)
- vacuum pad size 2, 4, 6, 8mm
- curved or straight holder for 1, 2, 4mm pad
- curved or straight holder for 6, 8mm pad
- milk-white coiling tube or anti-static coiling tube black color for EG type

*cannot change pad’s material to nitrile rubber*