5 Port Air Operated Valve
SYA3000/5000/7000 Series

How to Order

Thread piping

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>M5</td>
<td>M5 x 0.8</td>
<td>SYA3000</td>
</tr>
<tr>
<td>01</td>
<td>¼</td>
<td>SYA5000</td>
</tr>
<tr>
<td>02</td>
<td>¼</td>
<td>SYA7000</td>
</tr>
</tbody>
</table>

One-touch fitting (Metric size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>One-touch fitting for ø4</td>
<td>SYA3000</td>
</tr>
<tr>
<td>C6</td>
<td>One-touch fitting for ø6</td>
<td>SYA5000</td>
</tr>
<tr>
<td>C8</td>
<td>One-touch fitting for ø8</td>
<td>SYA7000</td>
</tr>
<tr>
<td>C10</td>
<td>One-touch fitting for ø10</td>
<td></td>
</tr>
</tbody>
</table>

One-touch fitting (Inch size)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>N3</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td>SYA3000</td>
</tr>
<tr>
<td>N7</td>
<td>One-touch fitting for ø1/4&quot;</td>
<td>SYA5000</td>
</tr>
<tr>
<td>N9</td>
<td>One-touch fitting for ø5/32&quot;</td>
<td>SYA7000</td>
</tr>
<tr>
<td>N11</td>
<td>One-touch fitting for ø5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Thread type

- Nil  
- Rc
- F  
- G  
- N  
- NPT  
- T  
- NPTF  

Bracket

- Nil  Without bracket
- F1  With foot bracket (2 position single only)
- F2  With side bracket

Body ported
SYA 5 1 20 - C6

Base mounted
SYA 5 1 40 -

Series

3  SYA3000
5  SYA5000
7  SYA7000

Type of actuation

1 2 position single
   (A)4 2(B)  (EA)5 3(EB) (P)

2 2 position double
   (A)4 2(B)  (EA)5 3(EB) (P)

3 3 position closed center
   (A)4 2(B)  (EA)5 3(EB) (P)

4 3 position exhaust center
   (A)4 2(B)  (EA)5 3(EB) (P)

5 3 position pressure center
   (A)4 2(B)  (EA)5 3(EB) (P)

P, R port thread type

- Nil  Without sub-plate
- F  With sub-plate SYA3000
- N  With sub-plate SYA5000
- T  With sub-plate SYA7000

Port size

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Port size</th>
<th>Applicable series</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>½&quot;</td>
<td>SYA3000</td>
</tr>
<tr>
<td>02</td>
<td>¼&quot;</td>
<td>SYA5000</td>
</tr>
<tr>
<td>02</td>
<td>¼&quot;</td>
<td>SYA7000</td>
</tr>
<tr>
<td>03</td>
<td>¾&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure range</td>
<td>2 position single 0.15 to 0.7</td>
</tr>
<tr>
<td></td>
<td>2 position double –100 kPa to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position –100 kPa to 0.7</td>
</tr>
<tr>
<td>Pilot pressure range Note 1</td>
<td>2 position single (0.7 x P + 0.1) to 0.7 P: Operating pressure range</td>
</tr>
<tr>
<td></td>
<td>2 position double 0.1 to 0.7</td>
</tr>
<tr>
<td></td>
<td>3 position 0.2 to 0.7</td>
</tr>
<tr>
<td>Ambient and fluid temperature (°C)</td>
<td>–10 to 60 (No freezing.)</td>
</tr>
<tr>
<td>Manual override (Manual operation)</td>
<td>Non-locking push type</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required</td>
</tr>
<tr>
<td>Mounting orientation</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>Impact/Vibration resistance (m/s²) Note 2</td>
<td>150/30</td>
</tr>
</tbody>
</table>

Note 1) In case of single type, be certain that pressure within operating pressure range be supplied to supply port, because return pressure is introduced from supply port (1(P)) for activation.

Note 2) Impact resistance: No malfunction resulted from the impact test using a drop impact tester. The test was performed on the axis and right angle directions of the main valve and armature, when pilot signal is ON and OFF. (Value in the initial state)

Vibration resistance: No malfunction occurred in one sweep test between 45 and 2000 Hz. Test was performed to axis and right angle directions of the main valve and armature when pilot signal is ON and OFF. (Value in the initial state)

Caution

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 3 to 9 for 3/4/5 Port Solenoid Valve Precautions.

How to Order Manifold Base

Same manifolds as SY series (Non plug-in type) are prepared.
(For 20, 41, 42 and 45 Types)

SS5YA3\(\frac{3}{7}\)

Fill the same as SS5Y\(\frac{3}{7}\).

(Refer to Best Pneumatics No. 1-1.)

Specify the part numbers for valves and options together beneath the manifold base part number.

<Example>

SS5YA5-42-03-02 1 set (Type 42, 3 station manifold base part no.)
SYA5140 1 set (Single air operated valve part no.)
SYA5240 1 set (Double air operated valve part no.)
SY5000-26-20A 1 set (Blanking plate assembly part no.)

The asterisk denotes the symbol for assembly.
Prefix it to the part nos. of the solenoid valve, etc.

Note) When single body ported air operated valves are ordered, manifold mounting screws and gaskets are not included. Order them separately if necessary.
(For details, refer to Best Pneumatics No. 1-1.)

Pilot Pressure Range
(Single pilot)
### Flow Rate Characteristics/Weight

#### Model/SYA3□20 Series (Body ported)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA3□20-M5</td>
<td>2 position</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td>37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td>39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td>39</td>
</tr>
<tr>
<td>SYA3□20-C4</td>
<td>2 position</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td></td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>SYA3□20-C6</td>
<td>2 position</td>
<td>Single</td>
<td>C6</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td>44</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes normal position.

#### Model/SYA3□40 Series (Base mounted)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>Flow rate characteristics</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA3□40-01</td>
<td>2 position</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td></td>
<td>69 (34)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Double</td>
<td></td>
<td></td>
<td>71 (36)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closed center</td>
<td></td>
<td></td>
<td>73 (38)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exhaust center</td>
<td></td>
<td></td>
<td>73 (38)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pressure center</td>
<td></td>
<td></td>
<td>73 (38)</td>
</tr>
</tbody>
</table>

Note 1) [ ] denotes normal position.

Note 2) ( ) Without sub-plate.
### 5 Port Air Operated Valve SYA3000/5000/7000 Series

#### Flow Rate Characteristics/Weight

**Model/SYA5□20 Series (Body ported)**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA5□20-01</td>
<td>Single</td>
<td></td>
<td>1/6</td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>SYA5□20-C4</td>
<td>Double</td>
<td>M5 x 0.8</td>
<td>C4 (One-touch fitting for ø4)</td>
<td>1.7</td>
<td>0.43</td>
<td>0.45</td>
</tr>
<tr>
<td>SYA5□20-C6</td>
<td>Closed</td>
<td>C6 (One-touch fitting for ø4)</td>
<td>1.7</td>
<td>0.39</td>
<td>0.30</td>
<td>1.6</td>
</tr>
<tr>
<td>SYA5□20-C8</td>
<td>Single</td>
<td></td>
<td>1/6</td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>SYA5□20-C10</td>
<td>Closed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Model/SYA5□40 Series (Base mounted)**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA5□40-02</td>
<td>Single</td>
<td>M5 x 0.8</td>
<td>1/4</td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>SYA5□40-C4</td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Model/SYA7□20 Series (Body ported)**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA7□20-02</td>
<td>Single</td>
<td>P port: 1/4</td>
<td></td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>SYA7□20-C8</td>
<td>Double</td>
<td>M5 x 0.8</td>
<td>C8 (One-touch fitting for ø8)</td>
<td>3.2</td>
<td>0.26</td>
<td>0.77</td>
</tr>
<tr>
<td>SYA7□20-C10</td>
<td>Closed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Model/SYA7□40 Series (Base mounted)**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Type of actuation</th>
<th>Pilot port size</th>
<th>Port size</th>
<th>1 → 4/2 (P → A/B)</th>
<th>4/2 → 5/3 (A/B → EA/EB)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYA7□40-02</td>
<td>Single</td>
<td>Double</td>
<td>1/4</td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
<tr>
<td>SYA7□40-C4</td>
<td>Double</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYA7□40-03</td>
<td>Closed</td>
<td>M5 x 0.8</td>
<td>1/4</td>
<td>C</td>
<td>b</td>
<td>Cv</td>
</tr>
</tbody>
</table>

---

### Notes:
- [ ] denotes normal position.
- ( ) denotes without sub-plate.
Dimensions/SYA3000 Series: Body Ported

2 position single
SYA3120- C4, N3 (-F2)

Foot bracket
SYA3120- C4, N3 -F1

SYA3120-M5
Dimensions/SYA3000 Series: Body Ported

2 position double
SYA3220-C4, N3（F2）

3 position closed center / exhaust center / pressure center
SYA3 20-C4, N3（F2）
Dimensions/SYA3000 Series: Base Mounted

2 position single
SYA3140-01

2 position double
SYA3240-01
Dimensions/SYA3000 Series: Base Mounted

3 position closed center / exhaust center / pressure center
SYA3\textsuperscript{3}/40-01

Manual override (Non-locking)

M5 x 0.8 (Pilot port)

Ventilation hole

1/8 (Piping port)
Dimensions/SYA5000 Series: Body Ported

2 position single
SYA5120-□(-F2)

- M5 x 0.8 (Pilot port)
- One-touch fitting (A, B port)
- Applicable tubing O.D.: ø4, ø5/32”
  ø6, ø5/16”
  ø8, ø1/4”

Foot bracket
SYA5120-□(-F1)

- Normal override (Non-locking)
- 2 x ø3.2 (For mounting)

Manual override (Non-locking)

2 x ø2.2 die-cast hole
(For manifold gasket positioning)

SYA5120-01□

- 1/8 (P, EA, EB port)
- Ventilation hole

- 2 x ø3.2 (For mounting)

SYA5120-01□
Dimensions/SYA5000 Series: Body Ported

2 position double
SYA5220 C4, N3 (-F2)
SYA5220-01 C6, N7 (-F2)
SYA5220-01 C8, N9

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4", ø8, ø5/16"

Manual override
(Non-locking)
Ventilation hole

3 position closed center / exhaust center / pressure center
SYA5220-01-6 C4, N3 (-F2)
SYA5220-01-6 C6, N7 (-F2)
SYA5220-01-6 C8, N9

One-touch fitting
(A, B port)
Applicable tubing O.D.: ø4, ø5/32", ø6, ø1/4", ø8, ø5/16"

Manual override
(Non-locking)
**SYA3000/5000/7000 Series**

**Dimensions/SYA5000 Series: Base Mounted**

### 2 position single
**SYA5140-02**

- Manual override (Non-locking)

### 2 position double
**SYA5240-02**

- Manual override (Non-locking)

- Ventilation hole

- M5 x 0.8 (Pilot port)

- 2 x ø4.3 (For mounting)

- 1/4 (Piping port)
Dimensions/SYA5000 Series: Base Mounted

3 position closed center / exhaust center / pressure center
SYA5 40-02
SYA3000/5000/7000 Series

Dimensions/SYA7000 Series: Body Ported

2 position single
SYA7120-C8, N9, C10, N11 (-F2)

Foot bracket
SYA7120-C8, N9 (-F1)
Dimensions/SYA7000 Series: Body Ported

2 position double
SYA7220- C8, N9, C10, N11- (F2)

- 2 x M5 x 0.8 (Pilot port)
- One-touch fitting
  - (A, B port)
  - Applicable tubing O.D.: ø8, ø5/16" ø10, ø3/8"
- 2 x ø4.2 (For manifold mounting)

3 position closed center / exhaust center / pressure center
SYA7 20- C8, N9, C10, N11- (F2)

- 2 x M5 x 0.8 (Pilot port)
- One-touch fitting
  - (A, B port)
  - Applicable tubing O.D.: ø8, ø5/16" ø10, ø3/8"
- 2 x ø4.2 (For manifold mounting)

Manual override

SYA7220-02- (F2)

SYA7 20-02- (F2)
SYA3000/5000/7000 Series

Dimensions/SYA7000 Series: Base Mounted

2 position single
SYA7140-0203

2 x ø4.3
(For mounting)

2 x M5 x 0.8
(Pilot port)

ø1.8
(Ventilation hole)

2 x ø4.3
(For mounting)

3/8, 1/4
(A, B port)

M5 x 0.8
(Pilot port)

3/8, 1/4
(P, EA, EB port)

Manual override

2 position double
SYA7240-0203

2 x ø4.3
(For mounting)

2 x M5 x 0.8
(Pilot port)

ø1.8
(Ventilation hole)

3/8, 1/4
(A, B port)

M5 x 0.8
(Pilot port)

3/8, 1/4
(P, EA, EB port)

Manual override
3 position closed center / exhaust center / pressure center
SYA7_3/540-02

Dimensions/SYA7000 Series: Base Mounted

Manual override

2 x ø4.3
(For mounting)

2 x M5 x 0.8
(Pilot port)

3/8, 1/4
(A, B port)

2 x ø1.8
(Ventilation hole)

3/8, 1/4
(P, EA, EB port)