5 Port Mechanical Valve
Metal Seal
Series VZM400

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Air/Inert gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating pressure</td>
<td>0.15 to 1.0 MPa (1)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>−5 to 60°C (No freezing)</td>
</tr>
<tr>
<td>Effective area</td>
<td>9.9 mm²</td>
</tr>
<tr>
<td>Maximum frequency (Mechanical operation type)</td>
<td>300 c.p.m. or less</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Not required (Use turbine oil class 1 ISO VG32, if lubricated.)</td>
</tr>
<tr>
<td>Port size</td>
<td>Main valve/Rc 1/8 (6A)</td>
</tr>
<tr>
<td>Option</td>
<td>Pilot valve (EXH)/M5 x 0.8</td>
</tr>
<tr>
<td>Weight (Basic)</td>
<td>150 g</td>
</tr>
</tbody>
</table>

Note 1) External pilot type Main valve: 0 to 1.0 MPa
Pilot valve: 0.15 to 1.0 MPa
Note 2) The standard body can not be retrofitted with a foot bracket.

External pilot model available. (Option)

Foot bracket and manifold mounting possible.

Compact design, large flow capacity 9.9 mm²
High cycle rate, long life/300 c.p.m. or less
Piping possible to any EXH port.

Proper countermeasures can be taken for applications in which the noise of the exhaust could cause problems to the surroundings.

Model

<table>
<thead>
<tr>
<th>Actuator</th>
<th>Model</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>VZM450-01-00</td>
<td>—</td>
</tr>
<tr>
<td>Roller lever</td>
<td>VZM450-01-01</td>
<td>VM-01C Polycetal roller</td>
</tr>
<tr>
<td>One way roller lever</td>
<td>VZM450-01-02</td>
<td>VM-02C Polycetal roller</td>
</tr>
<tr>
<td>Straight plunger</td>
<td>VZM450-01-05</td>
<td>—</td>
</tr>
<tr>
<td>Roller plunger</td>
<td>VZM450-01-06</td>
<td>VM-06C Polycetal roller</td>
</tr>
<tr>
<td>Toggle lever</td>
<td>VZM450-01-08</td>
<td>VM-08C —</td>
</tr>
<tr>
<td>Push button (Mushroom)</td>
<td>VZM450-01-30R</td>
<td>VM-30CR Red</td>
</tr>
<tr>
<td>Push button (Extended)</td>
<td>VZM450-01-32R</td>
<td>VM-32CR Red</td>
</tr>
<tr>
<td>Push button (Flush)</td>
<td>VZM450-01-33</td>
<td>VM-33C With a set of red, black, green, yellow</td>
</tr>
<tr>
<td>Twist selector (2 position)</td>
<td>VZM450-01-34R</td>
<td>VM-34CR Red</td>
</tr>
<tr>
<td>Key selector (2 position)</td>
<td>VZM450-01-36</td>
<td>VM-36C —</td>
</tr>
</tbody>
</table>

Note 1) Actuator replacement is available for all types.
Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 5-6-6 to 5-6-7. The other parts are not replaceable.
Note 3) The handle of the selector (2 position) cannot be removed or replaced alone.
Series VZM400

How to Order

VZM45 [0-01-01-S]

Port size
01 Rc 1/8
N01 NPT 1/8
F01 G 1/8

Actuator type
00 Basic
01 Roller lever
02 One Way Roller Lever
05 Straight plunger
06 Roller plunger
08 Toggle lever
30 Push button (Mushroom)
32 Push button (Extended)
33 Push button (Flush)
34 Twist selector (2 position)
36 Key selector (2 position)

Suffix for actuator
S Hard steel roller
R Red
B Black
G Green
Y Yellow

Option
F Foot bracket (Only internal pilot)

Body option
0 Internal pilot type
1 External pilot type

Construction

Non-actuated

Actuated

Component Parts

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>ADC</td>
<td>Metallic plated</td>
</tr>
<tr>
<td>2</td>
<td>Pilot body</td>
<td>PBT</td>
<td>Metallic plated</td>
</tr>
<tr>
<td>3</td>
<td>Head cover</td>
<td>ZDC</td>
<td>Black zinc chromated</td>
</tr>
<tr>
<td>4</td>
<td>Spool/sleeve</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>End cover</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Piston A</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Plunger</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Valve seat (A)</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Valve seat (B)</td>
<td>POM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Valve</td>
<td>NBR</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Piston guide B</td>
<td>Aluminum alloy</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Return spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Cushion</td>
<td>Rubber</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Cushion</td>
<td>Rubber</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Valve spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Return spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Piston B</td>
<td>POM</td>
<td></td>
</tr>
</tbody>
</table>
Series VZM400

Basic
VZM450-01-00

Roller lever
VZM450-01-01
VZM450-01-01S

One way roller lever
VZM450-01-02
VZM450-01-02S

JIS Symbol

<table>
<thead>
<tr>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 N</td>
<td>1.0 mm</td>
<td>2.0 mm</td>
<td>3.0 mm</td>
</tr>
</tbody>
</table>

+ 0.5 MPa supply

<table>
<thead>
<tr>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 N</td>
<td>1.0 mm</td>
<td>2.0 mm</td>
<td>3.0 mm</td>
</tr>
</tbody>
</table>

+ 0.5 MPa supply

<table>
<thead>
<tr>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 N</td>
<td>2.4 mm</td>
<td>4.6 mm</td>
<td>7.0 mm</td>
</tr>
</tbody>
</table>

+ 0.5 MPa supply
Series VZM400

**Straight plunger**

VZM450-01-05

- Panel mounting hole
- JIS Symbol

**Roller plunger**

VZM450-01-06
VZM450-01-06S

- Panel mounting hole
- JIS Symbol

**Toggle lever**

VZM450-01-08

- Panel mounting hole
- JIS Symbol

* 0.5 MPa supply

**|** F.O.F. | 18 N
---|---
**|** P.T. | 1.5 mm
**|** O.T. | 2.0 mm
**|** T.T. | 3.5 mm

|**|** F.O.F. | 15 N
---|---
**|** T.T. | 40°
Series VZM400

**Push button (Mushroom)**
VZM450-01-30R/B/G/Y

**Push button (Extended)**
VZM450-01-32R/B/G/Y

**Push button (Flush)**
VZM450-01-33

**Panel mounting hole**

**JIS Symbol**

*(B)/(A)*

*(EB)/(P)/(EA)*

---

**Panel mounting hole**

**JIS Symbol**

*(B)/(A)*

*(EB)/(P)/(EA)*

---

**Panel mounting hole**

**JIS Symbol**

*(B)/(A)*

*(EB)/(P)/(EA)*

---

**Specifications**

<table>
<thead>
<tr>
<th></th>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push button (Mushroom)</td>
<td>21 N</td>
<td>4.8 mm</td>
<td>1.7 mm</td>
<td>6.5 mm</td>
</tr>
<tr>
<td>Push button (Extended)</td>
<td>21 N</td>
<td>4.8 mm</td>
<td>1.7 mm</td>
<td>6.5 mm</td>
</tr>
<tr>
<td>Push button (Flush)</td>
<td>21 N</td>
<td>4.8 mm</td>
<td>1.7 mm</td>
<td>6.5 mm</td>
</tr>
</tbody>
</table>

---

*0.5 MPa supply*

---

(Pilot exhaust port)

---

2-3.5 mounting hole

---

Panel mounting hole
Series VZM400

5 Port Mechanical Valve Series VZM400

Twist selector (2 position)
VZM450-01-34R/B/G/Y

JIS Symbol
(B)(A)

Key selector (2 position)
VZM450-01-36

JIS Symbol
(B)(A)

Key can be removed at the "on" and "off" positions.

External pilot type
VZM451 type

With foot bracket
VZM450-01-□□□-F

Panel mounting hole

F.O.F. ° 23 N
T.T. 90°

F.O.F. ° 26 N
T.T. 90°

+ 0.5 MPa supply

0.5 MPa supply
5 Port Mechanical Valve
Series VZM500

Specifications

- **Model**: Compact design, large flow capacity 10.8 mm²
- **High cycle rate**: long life/300 c.p.m. or less
- **Piping possible**: to any EXH port.
- **Proper countermeasures**: can be taken for applications in which the noise of the exhaust could cause problems to the surroundings.
- **External pilot model available**: (Option)
- **Foot bracket and manifold mounting possible**.

**Fluid**
Air/inert gas

**Operating pressure**
0.15 to 0.7 MPa (1)

**Ambient and fluid temperature**
-5 to 60°C (No freezing)

**Effective area**
10.8 mm²

**Maximum frequency (Mechanical operation type)**
300 c.p.m. or less

**Lubrication**
Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)

**Port size**
Main valve/Rc ½" (6A)

**Pilot valve (EXH)/M5 x 0.8**

**Option**
Foot bracket (2)

**Weight (Basic)**
130 g

---

Note 1) Actuator replacement is available for all types. (Except push-pull)
Note 2) For push button (mushroom), push button (extended), push button (flush) and a single unit of fastening ring, refer to pages 5-6-6 to 5-6-7. The other parts are not replaceable.
Note 3) The handle of the selector (2 position) cannot be removed or replaced alone.
How to Order

**VZM55 0 01 01 S**

<table>
<thead>
<tr>
<th>Port size</th>
<th>Actuator type</th>
<th>Suffix for actuator</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Rec 1/8</td>
<td>00 Basic</td>
<td>S Hard steel roller</td>
<td>F Foot bracket</td>
</tr>
<tr>
<td>N01 NPT 1/8</td>
<td>01 Roller lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F01 G 1/8</td>
<td>02 One way roller lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>05 Straight plunger</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>06 Roller plunger</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>08 Toggle lever</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30 Push button (Mushroom)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31 Push button (Extended)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32 Push button (Flush)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>34 Twist selector (2 position)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35 Key selector (2 position)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>37 Push-pull</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Body option**

<table>
<thead>
<tr>
<th>0</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>External pilot type</td>
</tr>
</tbody>
</table>

**Except**

VZM550-01-37

Construction

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>ADC</td>
<td>Metallic plated</td>
</tr>
<tr>
<td>2</td>
<td>Pilot body</td>
<td>PBT</td>
<td>ZDC only for external pilot</td>
</tr>
<tr>
<td>3</td>
<td>Head cover</td>
<td>ZDC</td>
<td>Black zinc chromated</td>
</tr>
<tr>
<td>4</td>
<td>Spool valve assembly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>End cover</td>
<td>ZDC</td>
<td>Metallic plated</td>
</tr>
<tr>
<td>6</td>
<td>Piston</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Plunger</td>
<td>POM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Valve seat (A)</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Valve seat (B)</td>
<td>POM</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Valve assembly</td>
<td>NBR</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Valve spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Return spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Spool spring</td>
<td>Stainless steel</td>
<td></td>
</tr>
</tbody>
</table>

Force
Series VZM500

**Basic**
VZM550-01-00

**Roller lever**
VZM550-01-01
VZM550-01-01S

**One way roller lever**
VZM550-01-02
VZM550-01-02S

---

<table>
<thead>
<tr>
<th>Model</th>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>16</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Roller lever</td>
<td>8</td>
<td>2.2</td>
<td>4.0</td>
<td>6.2</td>
</tr>
<tr>
<td>One way roller lever</td>
<td>7</td>
<td>2.4</td>
<td>4.6</td>
<td>7.0</td>
</tr>
</tbody>
</table>
Series VZM500

**Straight plunger**

VZM550-01-05

- Series VZM500
- **3.5 mm** T.T.
- **2.0 mm** O.T.
- **1.5 mm** P.T.
- **18 NF.O.F.**
- **0.5 MPa** supply

**Roller plunger**

VZM550-01-06
VZM550-01-06S

- **Ø12** (Polyacetal or hard steel roller)
- **M14 × 1** Hexagon nut thick 8, across flats 22
- **M5 × 0.8** (Pilot exhaust port)
- **2-3.2 mounting hole**

**Toggle lever**

VZM550-01-08

- **T.T.** (Total Travel) 40°
- **M14 × 1** Hexagon nut thick 5, across flats 17
- **M5 × 0.8** (Pilot exhaust port)
- **2-3.2 mounting hole**

---

**Panel mounting hole**

- **MIN 2.5**
- **MAX 9.5**

---

**JIS Symbol**

- (A) (B)
- 4
- 2
- (R1) (P) (R2)

---

**Specifications**

<table>
<thead>
<tr>
<th>Part</th>
<th>F.O.F.</th>
<th>P.T.</th>
<th>O.T.</th>
<th>T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>0.5 MPa supply</em></td>
<td>18 N</td>
<td>1.5 mm</td>
<td>2.0 mm</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>
Series VZM500

Selector (2 position)
VZM550-01-34R/B/G/Y

Key selector (2 position)
VZM550-01-36

Push pull
VZM550-01-37

Panel mounting hole

JIS Symbol

(M5×0.8
(Pilot exhaust port)

(A)(B)
4 2

5 1 3
(R1)(P)(R2)

- 0.5 MPa supply

F.O.F. 23 N
T.T. 90°

Key can be removed at the “on” and “off” positions.

Panel mounting hole

JIS Symbol

(M5×0.8
(Pilot exhaust port)

(A)(B)
4 2

5 1 3
(R1)(P)(R2)

- 0.5 MPa supply

F.O.F. 26 N
T.T. 90°

Panel mounting hole

JIS Symbol

2-M14×1
Hexagon nut thick 5, across flats 17

(A)(B)
4 2

5 1 3
(R1)(P)(R2)

F.O.F. 20 N
T.T. 2.7 mm

Panel mounting hole

JIS Symbol

2-M14×1
Hexagon nut thick 5, across flats 17

(A)(B)
4 2

5 1 3
(R1)(P)(R2)

F.O.F. 20 N
T.T. 2.7 mm
External pilot type
VZM551 type

With foot bracket
VZM55□-01-□□-F