2/3 Port Valves for Fluid Control (Solenoid Valve/Air Operated Valve)

Series Variations/Selection Procedure

**Direct Operated 2 Port Solenoid Valve**

**Series VX21/22/23**
- N.C., N.O./Single Unit, Manifold
- For Air, Medium vacuum, Water, Oil, Steam
- P.27

**Direct Operated 2 Port Solenoid Valve with Built-in Y-strainer**

**Series VXK21/22/23**
- N.C., N.O./Single Unit
- For Air, Water, Oil, Steam
- P.73

**Pilot Operated 2 Port Solenoid Valve**

**Series VXD**
- N.C., N.O./Single Unit
- For Air, Water, Heated water, Oil, High temperature oil
- P.101

**Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve**

**Series VXZ**
- N.C., N.O./Single Unit
- For Air, Water, Heated water, Oil, High temperature oil
- P.154

**Zero Differential Pressure Type Pilot Operated 2 Port Solenoid Valve**

**Series VXS22/23**
- For Steam
- P.172

**Energy Saving Type 2 Port Solenoid Valve**

**Series VXE**
- N.C.
- For Air, Water, Oil
- P.190
Pilot Operated 2 Port Solenoid Valve
Series **VXP21/22/23**
For Air, Gas, Steam, Water, Oil
P.243

Water Hammer Relief/Pilot Operated 2 Port Solenoid Valve
Series **VXR21/22/23**
For Water and Oil
P.255

Diaphragm Type Pilot Operated 2 Port Solenoid Valve for High Pressure
Series **VXH**
Max. operating pressure: 2.0 MPa
P.265

2 Port Solenoid Valve/Air Operated Valve for Dust Collector
Series **VXF2/VXFA2**
For Dust collector
P.267

Direct Operated 3 Port Solenoid Valve
Series **VX31/32/33**
N.C., N.O., COM./Single Unit, Manifold
For Air, Water, Oil, Steam
P.306

Direct Air Operated 2 Port Valve
Series **VXA21/22**
For Air, Water, Oil
P.335

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Selection Procedure for 2/3 Port Valves for Fluid Control

1. **Selection of the series**
   - Select series by referring to the number of ports, valve type (N.C., N.O., C.O.), port size and applied fluid.

2. **Check by the applicable fluids check list**
   - Use the tables for each series to check the compatibility of the applicable fluid with the solenoid valve.

3. **Confirmation of the working pressure differential**
   - There are two types of pressure differentials. The high pressure differential is the highest pressure difference allowable between the inlet side and the outlet side in an open and closed state. The minimum pressure differential is the lowest pressure required to hold the main valve fully open. Refer to the following pages for each series as the pressure differential varies with the orifice size, power supply, pressure and fluid.

4. **Reference to the flow characteristic table**
   - To obtain the flow rate of fluid, refer to the flow characteristic table.

5. **Choice of the power supply voltage and electrical entry**
   - Select the AC/DC power source and choose the electrical entry.
### Solenoid Valves List

<table>
<thead>
<tr>
<th>Action</th>
<th>Direct operated</th>
<th>Direct operated</th>
<th>Pilot operated, Diaphragm type</th>
<th>Zero pressure differential operation, Pilot operated, Diaphragm type</th>
<th>Zero pressure differential operation, Pilot operated, Diaphragm type</th>
<th>Direct operated</th>
<th>Energy saving type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>VX21/22</td>
<td>VX21/22</td>
<td>VXD</td>
<td>VXZ</td>
<td>VXS22/23</td>
<td>VXE21/22/23</td>
<td></td>
</tr>
<tr>
<td>Body type</td>
<td>Single unit</td>
<td>Manifold</td>
<td>Single unit</td>
<td>Single unit</td>
<td>Single unit</td>
<td>Single unit</td>
<td>Single unit</td>
</tr>
<tr>
<td>Valve type</td>
<td>N.C.</td>
<td>N.O.</td>
<td>N.C.</td>
<td>N.O.</td>
<td>N.C.</td>
<td>N.O.</td>
<td>N.C.</td>
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#### Applicable fluids

<table>
<thead>
<tr>
<th>Port size</th>
<th>Rc 1/8 (6A)</th>
<th>1/4 (8A)</th>
<th>3/8 (10A)</th>
<th>1/2 (15A)</th>
<th>3/4 (20A)</th>
<th>1 (25A)</th>
<th>1 1/4 (32A)</th>
<th>1 1/2 (40A)</th>
<th>2 (50A)</th>
<th>2 1/2 (65A)</th>
<th>3 (80A)</th>
<th>3 1/2 (90A)</th>
<th>4 (100A)</th>
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<td>●</td>
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<tr>
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<td>●</td>
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<td>●</td>
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<td>●</td>
</tr>
<tr>
<td>Heated water</td>
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<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<td>●</td>
</tr>
<tr>
<td>Oil</td>
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#### Port Size

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<th>3 1/2 (90A)</th>
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<tbody>
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### Air Operated Valves List

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<thead>
<tr>
<th>Action</th>
<th>Direct operated</th>
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</thead>
<tbody>
<tr>
<td>Series</td>
<td>VXA21/22</td>
</tr>
<tr>
<td>Body type</td>
<td>Single unit</td>
</tr>
<tr>
<td>Valve type</td>
<td>N.C.</td>
</tr>
</tbody>
</table>

#### Applicable fluids

<table>
<thead>
<tr>
<th>Port size</th>
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### Page

- Solenoid Valves List: P.30, P.75, P.103, P.152, P.174, P.193, P.193
- Air Operated Valves List: P.335, P.272
### Pilot Operated, Diaphragm Type
#### Energy Saving Type
- VXED21/22/23
- VXE22/23
- VXP21/22/23
- VXR21/22/23
- VXH22
- VXF2
- VXZ22/23
- VXE22/23
- VXP21/22/23
- VXR21/22/23
- VXH22
- VXF2

#### N.C. N.O. N.C. N.O.

### Caution
Be sure to read before handling. Refer to front matter 41 for Safety Instructions, and pages 17 to 19 for 2 Port Solenoid Valves for Fluid Control Precautions.