Description

4-port, spool type, directional control valves with hand lever actuation and wide variety of spool types with spring-centered, spring-offset and detent arrangements.

Features

1. Five chamber body and spool design to facilitate high flow.
2. Conforms to ISO4401-03, NFPA T3.5.1 and ANSI B93-7 D03 interface.
3. Available in 52 standard, interchangeable spool configurations.
4. New fully encapsulated hand-lever mechanism for protection against ingress of dirt. High flexibility in mounting and operation
   - The operating head can be Rotated 4 x 90° around the spool axis
   - The operator head can be relocated towards port b of the valve.
   - Hand Lever can be rotated so that it is parallel to the axis at neutral condition.
5. Special R-rings for high extrusion resistance. Increased stability under high dynamic condition.

Technical data

General

Weight   kg  1.5

Hydraulic

Nominal Pressure
Ports P, A and B   bar  350
Port T            bar  160
Maximum Flow      lpm  60

Flow Area
Spool Q, A/B → T, position "0"  6%
Spool R, B → P, position "b"  50%
Spool V, A/B → T, position "0"  12%
P → A/B, position "0"  10%
Spool W, A/B → T, position "0"  3%

Hydraulic Fluid    Mineral Oil

Fluid Temperature
NBR   °C  -30 to 80°C
FKM   °C  -20 to 80°C

Maximum degree of fluid contamination Class 20/18/15 according to ISO 4406
Filter β₁₀ ≥ 75

Actuating Force

Of Spring Centered assembly   N  20max.
Of Detent Assembly            N  30max.
**Spool Types**

4/2 Way Valve with "o" and "a" positions

4/3 Way and 4/2(1) Way Valve

<table>
<thead>
<tr>
<th>Spool Type</th>
<th>Direction of Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(3)</td>
<td>J</td>
</tr>
<tr>
<td>C</td>
<td>L</td>
</tr>
<tr>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>B(3)</td>
<td>P</td>
</tr>
</tbody>
</table>

4/2 Way Valve with "o" and "b" positions

<table>
<thead>
<tr>
<th>Spool Type</th>
<th>Direction of Flow</th>
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<tbody>
<tr>
<td>E</td>
<td>Q</td>
</tr>
<tr>
<td>F</td>
<td>R</td>
</tr>
<tr>
<td>G</td>
<td>T</td>
</tr>
<tr>
<td>H</td>
<td>U</td>
</tr>
<tr>
<td>W</td>
<td>V</td>
</tr>
</tbody>
</table>

Note:

(1) When ordering a spool with only two positions "o" and "a" or "o" and "b", specify the desired position "A" or "B" in model code.

Example: E Spool with "o" and "a" position—4DE10EA220A-01

(2) Please check the possibility of cylinder intensification

(3) For spool type A and B, Port T must be used as drain line

**Characteristic Curves**

Pressure differential measured with ISO VG46 oil at 40°C ±10°C
Directional Control Valve
With hand Lever Operation

Y02501/09.03

Ordering Code

<table>
<thead>
<tr>
<th>4</th>
<th>DL</th>
<th>06</th>
<th>S</th>
<th>G</th>
<th>S</th>
<th>V</th>
<th>-11</th>
</tr>
</thead>
</table>

- 4 Service Ports
- Directional Control, Hand Lever Operated
- ISO size 3, NFPA/ANSI D 03 interface
- Sub-plate Mounting
- Spool type *(Refer Spool Chart)*

Design Series (Subject to Change)
11 to 20 externally interchangeable

Seals
- Nitrile (NBR) = omit
- Fluorocarbon (FKM) = V

Return
- Spring return = S
- Detent = D

Installation

Note: Valve Mounting Bolts
M5 x 45 mm; Tightening Torque 8.9 Nm
Mounting Hardware not included in scope
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Size</td>
<td>315 bar</td>
<td>60 lpm</td>
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</tbody>
</table>

**Notes**