#20 Double Acting Solenoid Valves, 4-Way / 2-Position, Spool Type Cartridge, 1) 2-Way NC P.O. Poppet Type Cartridge Valve – DC Unit Layout

Valve #1

Relief Valve Optional

Valve #2

3/8 - 16 UNC Mounting Holes (Typ. 2 Places)

4.313”

8.75”

Heavy Duty Motor

Standard Motor

.95 Quarts (55 Cubic Inches) Useable Reservoir Oil Capacity

1.43 Quarts (82 Cubic Inches) Useable Reservoir Oil Capacity

1.88 Quarts (108 Cubic Inches) Useable Reservoir Oil Capacity

2.65 Quarts (153 Cubic Inches) Useable Reservoir Oil Capacity

8.50”

5.50”

7.00”

8.50”

9.25”

11.00”

16.00”

4.20 Quarts (243 Cubic Inches) Useable Reservoir Oil Capacity

Useable Reservoir Oil Capacity

Useable Reservoir Oil Capacity

Useable Reservoir Oil Capacity

1.43 Quarts (82 Cubic Inches) Useable Reservoir Oil Capacity

1.88 Quarts (108 Cubic Inches) Useable Reservoir Oil Capacity

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.95 Quarts (55 Cubic Inches) Useable Reservoir Oil Capacity
#20 Double Acting Solenoid Valves, 4-Way / 2-Position, Spool Type Cartridge, 1) 2-Way NC P.O. Poppet Type Cartridge Valve – Schematic

**System Function**

**Valve #1 Control**
Energizing Power unit and Sol #1, (on both valves) oil is directed to port "A" and oil from port "B" is directed back to tank ("T" Port).

Energizing Power unit and Sol #2, (on both valves) oil is directed to port "B" and oil from port "A" is directed back to tank ("T" Port).

**Valve #2 Control**
Energizing Power unit and Sol #1, (on both valves) oil is directed to port "A" and oil from port "B" is directed back to tank ("T" Port).

Energizing Power unit and Sol #2, (on both valves) oil is directed to port "B" and oil from port "A" is directed back to tank ("T" Port).

**Valve Characteristics**

1.) Uses one 4-way, 2-Position spool type cartridge valve and one 2-way NC P.O. poppet type cartridge valve, solenoid operated (each valve).

2.) Aluminum manifold block machined for one 4-way, 2-Position cartridge valve, two 2-way cartridge valves (plugging one cartridge cavity in this application) and with two 3/8” NPT ports (each valve).

**Limitations**

1. When lifting and/or holding a load, Use Port "A" on each valve.
2. Horizontal Mounting only.

**Application**

1. Power up / Power Down
2. Power extend / Power retract
#20 Double Acting Solenoid Valves, 4-Way / 2-Position, Spool Type Cartridge, 1) 2-Way NC P.O. Poppet Type Cartridge Valve – Assembly

<table>
<thead>
<tr>
<th>Drawing No.</th>
<th>Part No.</th>
<th>Quantity Req'd</th>
<th>Part Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2497</td>
<td>2</td>
<td>Block, Solenoid Valve</td>
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<tr>
<td>2</td>
<td>2704</td>
<td>2</td>
<td>Cartridge Only, 4-Way, 2-Pos.</td>
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<tr>
<td>3</td>
<td>2705</td>
<td>4</td>
<td>12 Volt Coil</td>
</tr>
<tr>
<td>3B</td>
<td>2706</td>
<td>4</td>
<td>24 Volt Coil</td>
</tr>
<tr>
<td>3C</td>
<td>2707</td>
<td>4</td>
<td>110 Volt Coil</td>
</tr>
<tr>
<td>3D</td>
<td>2708</td>
<td>4</td>
<td>220 Volt Coil</td>
</tr>
<tr>
<td>4</td>
<td>1994</td>
<td>4</td>
<td>Nut Only, Cartridge Valve</td>
</tr>
<tr>
<td>5</td>
<td>2046</td>
<td>2</td>
<td>Orifice Disk, .050 Dia. (Optional) 3 Piston Units Only</td>
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<tr>
<td>6</td>
<td>1575</td>
<td>2</td>
<td>Relief Valve, Port (Optional)</td>
</tr>
<tr>
<td>7</td>
<td>1641</td>
<td>2</td>
<td>Plug, Relief Valve (Optional)</td>
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<td>8</td>
<td>1579</td>
<td>12</td>
<td>Plug, 1/16” NPT W / Sealant</td>
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<td>9</td>
<td>1937</td>
<td>4</td>
<td>Cap Screw, 1/4” - 20 UNC x 2.5” Long, Grade 8</td>
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<td>10</td>
<td>1290</td>
<td>4</td>
<td>Washer, Lock (1/4” I.D.)</td>
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<tr>
<td>11</td>
<td>1606</td>
<td>4</td>
<td>O - Ring, #2 - 010 Valve Seal</td>
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<tr>
<td>12</td>
<td>2703</td>
<td>2</td>
<td>Cartridge Only, 2-Way, 2-Pos.</td>
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<tr>
<td>13</td>
<td>1969</td>
<td>2</td>
<td>Plug, -8 (3/4” - 16) O - Ring Boss</td>
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</tbody>
</table>
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Note: Torque Valve Bolts to 108 in./lbs.

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Valve #1

Valve #2