2CFD50 - Flow Divider/Combiner
Pressure compensated, spool type
Up to 40 L/min (10.5 USgpm) • 350 bar (5000 psi)

Operation
Inlet flow passes through the two matched orifices in the spools, through the spools and out of the radial holes in the sleeve. The matched orifices and the compensating springs ensure that the flow is divided equally, excess flow in either direction causes the spool to move and close the radial holes in the sleeve until equilibrium is restored. In the reverse direction the spools close together and regulate the flow in through the radial ports.

Features
One valve synchronizes in both directions. Matched spools give high accuracy under load and pressure imbalance conditions. Cartridge construction gives versatility of application. A valve may be fitted into a line body, a custom designed Hydraulic Integrated Circuit or other hydraulic equipment.

Description
This range of flow divider/combiner valves gives division of input flow into two equal parts and re-combination of flow in the reverse direction. Pressure compensation ensures that whether dividing or combining, equal flow is maintained over a wide range of pressure variation. A typical use of these valves is to divide a pump flow to operate two actuators (which may be under different load conditions and at different pressures) and to re-combine the return flows to synchronize actuator movement. Flow variation is within ±10% with the maximum variation of pressure and inlet flow and under normal conditions will be significantly less.

Performance Data
Ratings and Specifications
Figures based on oil temp at 40˚ and viscosity at 40 cSt

<table>
<thead>
<tr>
<th>Specification</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated flow</td>
<td>Up to 40 L/min (10.5 USgpm)</td>
</tr>
<tr>
<td>Max pressure</td>
<td>350 bar (5000 psi)</td>
</tr>
<tr>
<td>Cartridge material</td>
<td>All working parts hardened and ground steel. Zinc plated external steel body</td>
</tr>
<tr>
<td>Body material</td>
<td>Standard aluminum (up to 210 bar*) add suffix “377” for steel option</td>
</tr>
<tr>
<td>Mounting position</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>Cavity number</td>
<td>A12744 (See Section M)</td>
</tr>
<tr>
<td>Torque cartridge into cavity</td>
<td>34 Nm (25 lbs ft)</td>
</tr>
<tr>
<td>Weight</td>
<td>2CFD50 0.10 kg (0.23 lbs) 2CFD55 0.44 kg (0.98 lbs)</td>
</tr>
<tr>
<td>Seal kit</td>
<td>SK1065 (Nitrile) SK1065V (Viton)</td>
</tr>
<tr>
<td>Recommended filtration level</td>
<td>Up to 40 L/min (10.5 USgpm)</td>
</tr>
<tr>
<td>Operating temp</td>
<td>-30˚ to +90˚C (-22˚ to +194˚F)</td>
</tr>
<tr>
<td>Nominal range</td>
<td>50 to 500 cSt</td>
</tr>
</tbody>
</table>

Viton is a registered trademark of E.I. DuPont

Pressure Drop

Note: When used on cylinders size to suit the return flow rate.
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Model Code

<table>
<thead>
<tr>
<th>1</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Port Size</td>
</tr>
<tr>
<td>3</td>
<td>Seals</td>
</tr>
<tr>
<td>4</td>
<td>Capacity (Input)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Port Size</th>
<th>Housing Number - Body Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omit</td>
<td>Cartridge only</td>
<td></td>
</tr>
<tr>
<td>3W</td>
<td>3/8&quot; BSP inlet and outlet</td>
<td>B19187</td>
</tr>
<tr>
<td>4W</td>
<td>1/2&quot; BSP inlet and outlet</td>
<td>B20816</td>
</tr>
<tr>
<td>8T-6T</td>
<td>1/2&quot; SAE inlet and 3/8&quot; SAE outlet</td>
<td>B19185 B21935</td>
</tr>
</tbody>
</table>

See section J for housing details.

Dimensions

mm (inch)
Cartridge Only
Basic Code 2CFD50

Notes: For applications above 210 bar (3000 psi), please consult our technical department or use the steel body option.

Notes: Blocking one leg will result in a large reduction in flow from the other. Valves with higher working pressures are available. Contact main office for details.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.