General Description
The DSL102, 2-way spool valves are used in circuits requiring flow to be blocked in both directions and/or flow to pass in both directions. When considering this valve series, allow for normal spool valve leakage. Normally open and normally closed configuration plus manual override models are available.

Operation
In the de-energized mode, the spool is positioned by spring force. The solenoid, when energized, directly shifts the spool against the spring, thus opening a normally closed valve or closing a normally open valve.

Specifications

<table>
<thead>
<tr>
<th>Rated Flow (At 70 PSI ΔP)</th>
<th>DSL102C</th>
<th>DSL102N</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.C.</td>
<td>30 LPM (8 GPM)</td>
<td>26 LPM (7 GPM)</td>
</tr>
<tr>
<td>N.O.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum Inlet Pressure</th>
<th>210 Bar (3000 PSI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leakage</td>
<td>160 cc/min. (10 cu. in./min.) maximum at 210 Bar (3000 PSI)</td>
</tr>
<tr>
<td>Minimum Operating Voltage</td>
<td>90% of rated voltage at 210 Bar (3000 PSI)</td>
</tr>
<tr>
<td>Operating Temp. Range (Ambient)</td>
<td>-40°C to +93.3°C (Nitrile) (-40°F to +200°F)</td>
</tr>
<tr>
<td></td>
<td>-31.7°C to +121.1°C (Fluorocarbon) (-25°F to +250°F)</td>
</tr>
<tr>
<td>Cartridge Material</td>
<td>All parts steel. All operating parts hardened steel.</td>
</tr>
<tr>
<td>Body Material</td>
<td>Steel or Aluminum</td>
</tr>
<tr>
<td>Filtration</td>
<td>ISO Code 16/13, SAE Class 4 or better</td>
</tr>
<tr>
<td>Mounting</td>
<td>No restrictions</td>
</tr>
<tr>
<td>Cavity</td>
<td>Common Cavity No. C10-2</td>
</tr>
</tbody>
</table>

Features
- High flow capacity with reduced space requirements
- Standard valve bodies and common cavities
- One-piece encapsulated coil with minimal amperage draw
- Manual overrides, seal variations and other options available
- No dynamic seals
- Variety of coil terminations
Performance Curves

Pressure Drop vs. Flow (Through cartridge only)

![Pressure Drop vs. Flow Graph]

Operating Characteristics (Through cartridge only)

![Operating Characteristics Graph]

Solenoid Coil Specifications

<table>
<thead>
<tr>
<th>Voltage</th>
<th>10 VDC</th>
<th>12 VDC</th>
<th>24 VDC</th>
<th>120 VAC</th>
<th>240 VAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watts</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Amps</td>
<td>1.45</td>
<td>1.17</td>
<td>0.57</td>
<td>.144</td>
<td>.079</td>
</tr>
</tbody>
</table>

Response Time
(at nominal flow and maximum pressure)

<table>
<thead>
<tr>
<th></th>
<th>Normally Closed</th>
<th>Normally Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally Closed</td>
<td>Open - 60 ms, Close - 40 ms</td>
<td></td>
</tr>
<tr>
<td>Normally Open</td>
<td>Open - 80 ms, Close - 40 ms</td>
<td></td>
</tr>
</tbody>
</table>

Wire Class

<table>
<thead>
<tr>
<th></th>
<th>&quot;H&quot; for all voltages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.C. Rectifiers</td>
<td>Integral full wave bridge</td>
</tr>
</tbody>
</table>

Hydraulic Oil 135 SSU @ 100°F (28 cSt)
**Dimensions**

*Inch equivalents for millimeter dimensions are shown in (**)
Directional Control Valves
Series DSL102

Ordering Information

DSL 10 2
Solenoid Valve Size Spool Style Override Option Seals Coil Voltage Body

Code Style
10 7/8" - 14UNF-2B Threaded Cavity

Code Description
Omit Cartridge without Coil
C 1/2"
NPTF Conduit Connector with 24" 18 AWG Wires
D010 10 VDC
D012 12 VDC
D024 24 VDC
A120 120/110 VAC, 60/50 Hz
A240 240/220 VAC, 60/50 Hz

Code Type
Omit Without Manual Override
P Push & Release Manual Override
T Push & Twist Manual Override

Code Description
Omit Cartridge without Coil
C Conduit
D DIN 43650 (Hirschmann) Plug Face
P SAE 1B-0.25 SAE Double Spade (DC Only)
W Double Wire, 24" 18 AWG (DC Only)
WP Waterproof Double Wire, 24" 16 AWG (DC Only)

Code Port Size & Material
Omit Cartridge Only
4P 1/4" NPTF (B10-2-4P) Steel
A4P 1/4" NPTF (B10-2-A4P) Aluminum
6P 3/8" NPTF (B10-2-6P) Steel
A6P 3/8" NPTF (B10-2-A6P) Aluminum
8P 1/2" NPTF (B10-2-8P) Steel
A8P 1/2" NPTF (B10-2-A8P) Aluminum
6T SAE-6 (B10-2-6T) Steel
A6T SAE-6 (B10-2-A6T) Aluminum
8T SAE-8 (B10-2-8T) Steel
A8T SAE-8 (B10-2-A8T) Aluminum
4B 1/4" BSPG (B10-2-4B) Steel
A4B 1/4" BSPG (B10-2-A4B) Aluminum
6B 3/8" BSPG (B10-2-6B) Steel
A6B 3/8" BSPG (B10-2-A6B) Aluminum
8B 1/2" BSPG (B10-2-8B) Steel
A8B 1/2" BSPG (B10-2-A8B) Aluminum

Notes: See Series 10 Coil Data Sheet. For other coil voltages and terminations, consult factory. S10 Coil applies to all terminations except WP. SW10 Coil applies to WP termination only.

Shipping Weight
Cartridge Only .17 kg (.38 lbs.)
Cartridge in Body .62 kg (1.4 lbs.)

DIN Connector:
See Coil Data Sheet
Coil Nut:
DSL102 — 118127-00
Nitrile Seal Kit:
DSL102 — SK10-2
Fluorocarbon Seal Kit:
DSL102 — SK10-2V

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Hydraulic Valve Division
Elyria, Ohio 44035 USA