OPERATION
This valve provides electrically actuated traction control for hydrostatic systems with one pump and two motors in parallel. In normal operation, fluid passes freely through the valve. When the solenoid is energized, fluid is forced through the flow divider/combiner, preventing wheel spin or motor over speed.

PERFORMANCE

Schematic

Specifications

Rated pressure 207 bar (3000 psi)
Rated flow at 7 bar (100 psi) 45 l/min (12 US gal/min)
Weight 2.79 kg (6.15 lb)
Bypass Cracking Pressure 3.1 bar (45 psi)

DIMENSIONS

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>PORT SIZES &amp; MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>6051 ALUMINIUM</td>
</tr>
<tr>
<td>85 = M1, M2 &amp; A - #8 SAE</td>
</tr>
<tr>
<td>C1 &amp; C2 - #2 SAE</td>
</tr>
<tr>
<td>T - #4 SAE</td>
</tr>
<tr>
<td>125 = M1, M2 &amp; A - #12 SAE</td>
</tr>
<tr>
<td>C1 &amp; C2 - #8 SAE</td>
</tr>
<tr>
<td>T - #4 SAE</td>
</tr>
<tr>
<td>48 = M1, M2 &amp; A - 1/2 BSP</td>
</tr>
<tr>
<td>C1 &amp; C2 - 1/8 BSP</td>
</tr>
<tr>
<td>T - 1/4 BSP</td>
</tr>
<tr>
<td>68 = M1, M2 &amp; A - 3/4 BSP</td>
</tr>
<tr>
<td>C1 &amp; C2 - 1/8 BSP</td>
</tr>
<tr>
<td>T - 1/4 BSP</td>
</tr>
</tbody>
</table>

BC332376200116en-000101 • February 2020
**OPERATION**

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**PERFORMANCE**

Performance curve

<table>
<thead>
<tr>
<th>Pressure drop (psi)</th>
<th>Flow (US gal/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>7</td>
</tr>
<tr>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>60</td>
<td>21</td>
</tr>
<tr>
<td>80</td>
<td>28</td>
</tr>
<tr>
<td>100</td>
<td>35</td>
</tr>
<tr>
<td>120</td>
<td>42</td>
</tr>
<tr>
<td>140</td>
<td>49</td>
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<tr>
<td>160</td>
<td>56</td>
</tr>
<tr>
<td>180</td>
<td>63</td>
</tr>
<tr>
<td>200</td>
<td>70</td>
</tr>
<tr>
<td>220</td>
<td>77</td>
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<tr>
<td>240</td>
<td>84</td>
</tr>
<tr>
<td>260</td>
<td>91</td>
</tr>
<tr>
<td>280</td>
<td>98</td>
</tr>
<tr>
<td>300</td>
<td>105</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

<table>
<thead>
<tr>
<th>mm (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>136102680</td>
</tr>
<tr>
<td>328</td>
</tr>
<tr>
<td>187</td>
</tr>
<tr>
<td>52</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION**

PORT SIZES & MATERIAL
- 6881, TE: ALUMINUM, DUCTILE.
- 16S, 18S: = M1, M2 & A - #16 SAE.
- T - #8 SAE.
- 20S, 22S: = M1, M2 & A = #20 SAE.
- G1 & G2 = #2 SAE.
- T - #8 SAE.
- F04, SF04: = M1, M2 & A = 1" CODE 61.
- G1 & G2 = #2 SAE.
- T - #8 SAE.
- 88, 928: = M1, M2 & A = 1" BSP.
- G1 & G2 = 1/4" BSP.
- T - 3/8" BSP.
- 108, S108: = M1, M2 & A = 1-1/4" BSP.
- G1 & G2 = 1/4" BSP.
- T - 3/8" BSP.

**Schematic**

**Specifications**

- **Rated pressure**: 350 bar [5075 psi]
- **Rated flow at 7 bar [100 psi]**: 150 l/min [40 US gal/min]
- **Weight**: 4.48 kg [9.88 lb]
- **Bypass cracking pressure**: 3.8 bar [55 psi]
**OPERATION**

This valve provides electrically actuated traction control for hydrostatic systems with one pump and four motors in parallel. In normal operation, fluid passes freely through the valve. When the solenoid is energized, fluid is forced through the flow divider/combiners. The result is equal flow to all four motors, preventing wheel spin or motor over speed.

**PERFORMANCE**

**Performance curve**

![Performance curve graph](image)

**Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated pressure</td>
<td>207 bar [3000 psi]</td>
</tr>
<tr>
<td>Rated flow at 7 bar (100 psi)</td>
<td>45 l/min [12 US gal/min]</td>
</tr>
<tr>
<td>Weight</td>
<td>8.74 kg [19.74 lb]</td>
</tr>
<tr>
<td>Bypass cracking pressure</td>
<td>3.1 bar [45 psi]</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION**

X05 - FD104 - 8S - 0303 - 11 - 12 - DE - B

PORT SIZES & MATERIAL

6061 T6 ALUMINUM
8S = M PORTS - #8 SAE
A1 & A2 - #10 SAE
T & G - #4 SAE
10S = M PORTS - #10 SAE
A1 & A2 - #12 SAE
T & G - #4 SAE

**DIMENSIONS**

See next page.
**OPERATION**

This valve provides electrically actuated traction control for hydrostatic systems with one pump and four motors in parallel. In normal operation, fluid passes freely through the valve. When the solenoid is energized, fluid is forced through the flow divider/combiners. The result is equal flow to all four motors, preventing wheel spin or motor over speed.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated pressure</td>
<td>350 bar [5075 psi]</td>
</tr>
<tr>
<td>Rated flow at 7 bar (100 psi)</td>
<td>150 l/min [40 US gal/min]</td>
</tr>
<tr>
<td>Weight</td>
<td>14.57 kg [32.12 lb]</td>
</tr>
<tr>
<td>Bypass cracking pressure</td>
<td>4 bar [55 psi]</td>
</tr>
</tbody>
</table>

**ORDERING INFORMATION**

X05 - FD164 - S12S - 0909 - 2020 - H12D - DE - B

**DIMENSIONS**

See next page.
The Loop Flushing Block allows oil to drain from the power transmission loop to other oil treatment components. The low pressure side of the circuit is directed to the relief valve, which is then drained out of the transmission loop.

This HIC is typically used in closed loop circuits to assist in the process of removing contamination and cooling oil. Hydrostatic systems with sustained operation and continuous pressure will benefit from a loop flushing circuit.

To configure the LFB12, determine the charge pump pressure and desired flushing flow. Working up from the desired flow, select the orifice size with a pressure rise that, when added to one of the available relief settings (in the ordering information section), meets the charge pump pressure.

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated pressure</td>
<td>350 bar [5075 psi]</td>
</tr>
<tr>
<td>Rated flow</td>
<td>See performance chart</td>
</tr>
<tr>
<td>Weight</td>
<td>3.4 kg [7.5 lb]</td>
</tr>
<tr>
<td>Valves</td>
<td>CP721-3 [Shuttle]</td>
</tr>
<tr>
<td></td>
<td>CP210-1 [Relief]</td>
</tr>
<tr>
<td></td>
<td>M12 orifice plug</td>
</tr>
<tr>
<td>Material</td>
<td>Ductile Iron</td>
</tr>
</tbody>
</table>

### Performance Chart

Pressure rise per orifice option

33 cSt [154 SUS] hyd. oil at 38°C [100°F]
Traction Control HIC Technical Information

**LFB12**

**DIMENSIONS**

mm [in]

**ORDERING INFORMATION**

- **Spool Center**
  - C = Closed
  - O = Open

- **Relief Setting**
  - 7 = 7 bar [100 psi]
  - 10 = 10 bar [150 psi]
  - 14 = 14 bar [200 psi]
  - 17 = 17 bar [250 psi]
  - 21 = 21 bar [300 psi]
  - 24 = 24 bar [350 psi]
  - 28 = 28 bar [400 psi]

- **Orifice Option**
  - 00 = None
  - 2.5 = ø2.5mm
  - 3.0 = ø3.0mm
  - 3.5 = ø3.5mm
  - 4.0 = ø4.0mm
  - 4.5 = ø4.5mm
  - 5.0 = ø5.0mm

- **Port Sizes**
  - S8S = 8S SAE [A, B, & DR]
  - 6S SAE [GA & GB]

- **Seal Material**
  - B = Buna
  - V = Viton