Vented, 3:1 pilot ratio, load reactive, load control valve

Functional Group:
Products: Cartridges : Load Control Valve, Load Reactive : 4 Port, Vented : 3:1 Pilot Ratio

Product Description
Vented, load reactive load control valves with pilot assist combine two valves; a check valve and a relief valve. The check valve allows free flow from the directional valve (port 2) to the load (port 1) while a direct-acting, pilot-assisted relief valve controls flow from port 1 to port 2. Pilot assist at port 3 lowers the effective setting of the relief valve at a rate determined by the pilot ratio. Backpressure at port 2 does not affect the valve setting because the spring chamber references the vent (port 4).

Technical Features
- Load reactive load control valves should be set at least 1.3 times the maximum load induced pressure.
- Turn adjustment clockwise to decrease setting and release load.
- Full clockwise setting is 1000 psi (70 bar) for the H range and 2000 psi (140 bar) for the J range.
- This valve has positive seals between all ports.
- These valves are capable of modulating over a broader range of flows than the pure poppet designs. The longer stroke allows us to incorporate a uni-directional damping device that smooths the opening and lets the valve close quickly.
- This valve is functionally a 4 port counterbalance valve. It seats as a poppet valve and modulates as a spool valve offering the best of both worlds.
- All 4-port counterbalance, load control, and pilot-to-open check cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size).
- This valve has full relief capacity.
- Sun load control cartridges can be installed directly into a cavity machined in an actuator housing for added protection and improved stiffness in the circuit.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.
## Technical Data

<table>
<thead>
<tr>
<th></th>
<th>U.S. Units</th>
<th>Metric Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cavity</strong></td>
<td>T-23A</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>60 gpm</td>
<td>240 L/min.</td>
</tr>
<tr>
<td><strong>Pilot Ratio</strong></td>
<td>3:1</td>
<td></td>
</tr>
<tr>
<td><strong>Maximum Recommended Load Pressure at Maximum Setting</strong></td>
<td>3760 psi</td>
<td>260 bar</td>
</tr>
<tr>
<td><strong>Maximum Setting</strong></td>
<td>5000 psi</td>
<td>350 bar</td>
</tr>
<tr>
<td><strong>Adjustment - Number of Counterclockwise Turns to Increase Setting</strong></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Check Cracking Pressure</strong></td>
<td>25 psi</td>
<td>1,7 bar</td>
</tr>
<tr>
<td><strong>Factory Pressure Settings Established at</strong></td>
<td>2 in³/min.</td>
<td>30 cc/min.</td>
</tr>
<tr>
<td><strong>Maximum Valve Leakage at Reseat</strong></td>
<td>5 drops/min.</td>
<td>0,3 cc/min.</td>
</tr>
<tr>
<td><strong>Series (from Cavity)</strong></td>
<td><strong>Series 3</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Reseat
- >85% of Set Pressure

### Valve Hex Size
- 1 1/4 in. (31.8 mm)

### Valve Installation Torque
- 150 - 160 lbf ft (200 - 215 Nm)

### Adjustment Screw Internal Hex Size
- 5/32 in. (4 mm)

### Adjustment Locknut/Cap Hex Size
- 9/16 in. (15 mm)

### Adjustment Nut Torque
- 80 - 90 lbf in. (9 - 10 Nm)

### Seal Kits - Cartridge
- Standard Options
- **H** 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting
- **J** 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting

### Model Weight
- 2.08 lb. (0.94 kg.)

---

### MWGA-LHN

#### Control
- **L** Standard Screw Adjustment

#### Functional Setting Range
- **H** 1000 - 4000 psi (70 - 280 bar), 3000 psi (210 bar) Standard Setting
- **J** 2000 - 5000 psi (140 - 350 bar), 3000 psi (210 bar) Standard Setting

#### Seal Material
- **N** Buna-N
- **V** Viton

Customer specified setting stamped on hex.

---

Copyright © 2002-2011 Sun Hydraulics Corporation. All rights reserved.

Terms and Conditions - ISO Certification - Statement of Privacy