## Relief Valves

### PILOT OPERATED

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Typical Cartridge Model Code</th>
<th>Cavity</th>
<th>Cartridge Dimensions</th>
<th>Installation Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 L/min.</td>
<td>RPCC – LAN</td>
<td>T - 162A</td>
<td>31</td>
<td>c</td>
</tr>
<tr>
<td>95 L/min.</td>
<td>RPEC – LAN</td>
<td>T - 10A</td>
<td>39,7</td>
<td>c</td>
</tr>
<tr>
<td>200 L/min.</td>
<td>RPGC – LAN</td>
<td>T - 3A</td>
<td>47,8</td>
<td>c</td>
</tr>
<tr>
<td>380 L/min.</td>
<td>RPIC – LAN</td>
<td>T - 16A</td>
<td>61,9</td>
<td>c</td>
</tr>
<tr>
<td>760 L/min.</td>
<td>RPKC – LAN</td>
<td>T - 18A</td>
<td>79,4</td>
<td>c</td>
</tr>
</tbody>
</table>

### DIRECT ACTING

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Typical Cartridge Model Code</th>
<th>Cavity</th>
<th>Cartridge Dimensions</th>
<th>Installation Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 L/min.</td>
<td>RDDB – LAN</td>
<td>T - 162A</td>
<td>31</td>
<td>c</td>
</tr>
<tr>
<td>95 L/min.</td>
<td>RDAA – LAN</td>
<td>T - 10A</td>
<td>39,7</td>
<td>c</td>
</tr>
<tr>
<td>200 L/min.</td>
<td>RDFA – LAN</td>
<td>T - 3A</td>
<td>47,8</td>
<td>c</td>
</tr>
<tr>
<td>380 L/min.</td>
<td>RDHA – LAN</td>
<td>T - 16A</td>
<td>61,9</td>
<td>c</td>
</tr>
<tr>
<td>760 L/min.</td>
<td>RDJA – LAN</td>
<td>T - 18A</td>
<td>79,4</td>
<td>c</td>
</tr>
</tbody>
</table>

### OPTION ORDERING INFORMATION

**Nominal Capacity**

- **RP**
  - C 45 L/min.
  - E 95 L/min.
  - G 200 L/min.
  - I 380 L/min.
  - K 760 L/min.

**Control**

- L Standard Screw
- C Tamper Resistant
- K Handknob

**Adjustment Range**

- A 7 - 210 bar
- B 3.5 - 105 bar
- C 10 - 420 bar
- N 4 - 55 bar
- Q 4 - 25 bar

**Seal**

- N Buna-N
- V Viton

**Adjustment Range Options:**

- A, B, C, and W are standard set at 70 bar.
- N Option is standard set at 25 bar.
- Q Option is standard set at 14 bar.

**Minimum setting 5 bar on all ranges.**

Customer may specify pressure setting.

**OPTION ORDERING INFORMATION**

**Nominal Capacity**

- **RD**
  - B 45 L/min.
  - D 95 L/min.
  - F 200 L/min.
  - H 380 L/min.
  - J 760 L/min.

**Control**

- L Standard Screw
- C Tamper Resistant

**Adjustment Range**

- A 35 - 210 bar
- B 20 - 105 bar
- C 70 - 420 bar
- D 14 - 55 bar
- E 7 - 25 bar
- S 3.5 - 14 bar

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**U.S. Patent #4,742,846**

**European Patent Pending**

**See page 244 for information on Control Options**

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**Option Ordering Information**

- **Nominal Control**
  - Adjustment Range Options:
    - A, B, C, and W are standard set at 70 bar.
    - N Option is standard set at 25 bar.
    - Q Option is standard set at 14 bar.

- **Minimum setting 5 bar on all ranges.**

Customer may specify pressure setting.

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**Cartridge Dimensions**

<table>
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<tr>
<th>Cartridge Code</th>
<th>Cavity</th>
<th>Installation Torque (Nm)</th>
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</thead>
<tbody>
<tr>
<td>RDBA – LAN</td>
<td>T-1 6 2 A</td>
<td>31</td>
</tr>
<tr>
<td>RDDA – LAN</td>
<td>T-10A 39,7 22,2 61 53 40/50</td>
<td></td>
</tr>
<tr>
<td>RDFA – LAN</td>
<td>T-3A 47,8 28,6 64 66 60/70</td>
<td></td>
</tr>
<tr>
<td>RDHA – LAN</td>
<td>T-16A 61,9 31,8 83 85 200/215</td>
<td></td>
</tr>
<tr>
<td>RDJA – LAN</td>
<td>T-18A 79,4 41,3 100 104 465/500</td>
<td></td>
</tr>
</tbody>
</table>

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**Outlet**

**Inlet**

**Locating Shoulder**

**Full Adjustment 5 Turns**

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**TWO PORT RELIEF**

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**UK Selected Assemblies Catalogue #939-901-191**
Relief Valves, Pilot Operated

Applications
These relief cartridges are normally closed, pressure control elements that are fully adjustable over a wide range of operating pressures up to 350 bar. They are typically used when accurate pressure regulation is required and spool leakage is not critical.

Design Concepts and Features
- Incorporates 150 micron stainless steel screen to protect the main stage control orifice.
- Low leakage, 50 to 115 cc/min./100 bar, dependent on frame size.
- Low hysteresis, less than ± 1%
- Selection of spring adjustment ranges with low adjustment effort.

Relief Valves, Direct Acting

Applications
This patented, direct acting, differential area valve with broad operating characteristics is adjustable to 350 bar. Because of its exceptional performance, this relief cartridge should be considered for applications where fast response, dirt tolerance and leakage are critical. Examples of this type of application would include overshoot protection of fixed and variable volume pumps and shock protection of actuators (cylinders and motors).

Design Concepts and Features
- Maximum leakage is 10 drops/min. at reseat.
- Reseat equals 90% of cracking pressure for all five frame sizes.
- Not recommended for repeated adjustment because of high adjustment effort.

Note: For both types of relief cartridge, any pressure at port 2 is directly additive to the valve settings. In situations where absolute pressure at port 1 is required; use RS*C-*** sequence cartridge or RV*D, four port relief cartridge.

General Application Requirements
- Operating Temperature Range: Buna-N seals -45° C to 90° C, Viton seals -15° C to 120° C.
- Viscosity Range: 10-600 centistokes.
- Fluid Contamination Level: ISO 4406 18/15 or better; Recommend β10 ≥ 75 to achieve ISO 18/15 or better in most systems.
- Factory Pressure Setting for cartridge is established at a 15 L/min. flow rate.