Top-Ported Pressure Filter

Features and Benefits
- Top-ported high pressure filter
- Offered in pipe, SAE straight thread, flanged and ISO 228 porting
- Available with non-bypass option with high collapse element
- Standard drain plug in bowl for easy servicing
- Various dirt alarm options available

Flow Rating:
- Up to 30 gpm (115 L/min) for 150 SUS (32 cSt) fluids

Max. Operating Pressure:
- 6000 psi (415 bar)

Min. Yield Pressure:
- 18,000 psi (1241 bar), per NFPA T2.6.1

Rated Fatigue Pressure:
- 2300 psi (159 bar), per NFPA T2.6.1-2005

Temp. Range:
- -20°F to 225°F (-29°C to 107°C)

Bypass Setting:
- Cracking: 40 psi (2.8 bar)
- Full Flow: 56 psi (3.9 bar)
- Non-bypassing model has a blocked bypass.

Porting Head: Steel
Element Case: Steel

Weight of RF60-8R:
- 15.75 lbs. (7.2 kg)

Element Change Clearance:
- 3.0” (75 mm)

Applications
- Mining Technology
- Agriculture
- Steel Making
- Mobile Vehicles
- Construction

Model No. of filter in photograph is RF608R10P.
### Top-Ported Pressure Filter

#### RF60

<table>
<thead>
<tr>
<th>Element</th>
<th>DHC (gm)</th>
<th>Element Collapse Rating</th>
<th>Flow Direction</th>
<th>Element Nominal Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8R3</td>
<td>6</td>
<td>150 psid (10 bar) for standard elements</td>
<td>Outside In</td>
<td>2.18&quot; (55 mm) O.D. x 8.15&quot; (206 mm) long</td>
</tr>
<tr>
<td>8R10</td>
<td>7</td>
<td>3000 psid (210 bar) for high collapse (ZX) versions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZ1</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZ3</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZ5</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZ10</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZ25</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZX3</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8RZX10</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

#### Element Performance Information

<table>
<thead>
<tr>
<th>Element</th>
<th>Filtration Ratio Per ISO 4572/NFPA T3.10.8.8</th>
<th>Filtration Ratio wrt ISO 16889</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Using automated particle counter (APC) calibrated per ISO 4402</td>
<td>Using APC calibrated per ISO 11171</td>
</tr>
<tr>
<td>8R3</td>
<td>$\beta_x \geq 75$</td>
<td>$\beta_x \geq 100$</td>
</tr>
<tr>
<td>8R10</td>
<td>15.5</td>
<td>16.2</td>
</tr>
<tr>
<td>8RZ1</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>8RZ3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>8RZ5</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>8RZ10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
<tr>
<td>8RZ25</td>
<td>18.0</td>
<td>20.0</td>
</tr>
<tr>
<td>8RZX3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>8RZX10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>

#### Dirt Holding Capacity

<table>
<thead>
<tr>
<th>Element</th>
<th>DHC (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8R3</td>
<td>6</td>
</tr>
<tr>
<td>8R10</td>
<td>7</td>
</tr>
<tr>
<td>8RZ1</td>
<td>33</td>
</tr>
<tr>
<td>8RZ3</td>
<td>26</td>
</tr>
<tr>
<td>8RZ5</td>
<td>51</td>
</tr>
<tr>
<td>8RZ10</td>
<td>29</td>
</tr>
<tr>
<td>8RZ25</td>
<td>30</td>
</tr>
<tr>
<td>8RZX3</td>
<td>N/A</td>
</tr>
<tr>
<td>8RZX10</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Top-Ported Pressure Filter

Type Fluid  Appropriate Schroeder Media

- Petroleum Based Fluids  All E media (cellulose) and Z-Media® (synthetic)
- High Water Content  All Z-Media® (synthetic)
- Invert Emulsions  10 and 25 µ Z-Media® (synthetic)
- Water Glycols  3, 5, 10 and 25 µ Z-Media® (synthetic)
- Phosphate Esters  All Z-Media® (synthetic) with H (EPR) seal designation

Skydrol®  3, 5, 10 and 25 µ Z-Media® (synthetic) with H.5 seal designation (EPR seals and stainless steel wire mesh in element, and light oil coating on housing exterior)

<table>
<thead>
<tr>
<th>Pressure Series</th>
<th>Part No.</th>
<th>Element Selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To 6000 psi (415 bar)</td>
<td>8R3</td>
<td>8R3</td>
</tr>
<tr>
<td></td>
<td>8R10</td>
<td>8R10</td>
</tr>
<tr>
<td>Z-Media®</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8RZ1</td>
<td>8RZ1</td>
</tr>
<tr>
<td></td>
<td>8RZ3</td>
<td>8RZ3</td>
</tr>
<tr>
<td></td>
<td>8RZ5</td>
<td>8RZ5</td>
</tr>
<tr>
<td></td>
<td>8RZ10</td>
<td>8RZ10</td>
</tr>
<tr>
<td></td>
<td>8RZ25</td>
<td>8RZ25</td>
</tr>
</tbody>
</table>

Element Selection Based on Flow Rate

Flow (gpm)  0  10  15  20  25  30
(L/min)  0  50  75  100  115

Shown above are the elements most commonly used in this housing.

Note: Contact factory regarding use of E Media in High Water Content, Invert Emulsion and Water Glycol Applications. For more information, refer to Fluid Compatibility: Fire Resistant Fluids, pages 19 and 20.

\[ \Delta P_{\text{housing}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor} \]

- \( \Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor} \)
- \( \Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}} \)

Exercise:
Determine \( \Delta P \) at 15 gpm (57 L/min) for RF608R10SD5 using 200 SUS (44 cSt) fluid.

Solution:
- \( \Delta P_{\text{housing}} = 5.0 \text{ psi} \ (0.35 \text{ bar}) \)
- \( \Delta P_{\text{element}} = 15 \times 0.30 \times (200+150) = 6.0 \text{ psi} \)
- \or\  \( = [57 \times (0.30+54.9) \times (44+32)] = 41 \text{ bar} \)
- \( \Delta P_{\text{total}} = 5.0 + 6.0 = 11.0 \text{ psi} \)
- \or\  \( = [0.38 + 0.41] = 0.79 \text{ bar} \)

Notes
How to Build a Valid Model Number for a Schroeder RF60:

**BOX 1**
- Filter Series
  - RF60
  - RFN60
  - (Non-bypassing: requires ZX high collapse elements)

**BOX 2**
- Element Length (in)
  - 8

**BOX 3**
- Element Size and Media
  - R3 = R size 3 μ E media (cellulose)
  - R10 = R size 10 μ E media (cellulose)
  - RZ1 = R size 1 μ Excellement® Z-Media® (synthetic)
  - RZ3 = R size 3 μ Excellement® Z-Media® (synthetic)
  - RZ5 = R size 5 μ Excellement® Z-Media® (synthetic)
  - RZ10 = R size 10 μ Excellement® Z-Media® (synthetic)
  - RZ25 = R size 25 μ Excellement® Z-Media® (synthetic)
  - RZX3 = R size 3 μ Excellement® Z-Media® (high collapse center tube)
  - RZX10 = R size 10 μ Excellement® Z-Media® (high collapse center tube)

**BOX 4**
- Seal Material
  - Omit = Buna N
  - H = EPR
  - V = Viton®

**BOX 5**
- Inlet Port
  - P = 1" NPTF
  - S = SAE-16
  - F = 1" SAE 4-bolt flange Code 62
  - B = ISO 228 G-1"

**BOX 6**
- Options
  - Omit = None
  - X = Blocked bypass setting
  - 50 = 50 psi bypass setting
  - L = Two ¼" NPTF inlet and outlet female test ports
  - U = Schroeder Check ¾"-20 UNF Test Point installation in head (upstream)

**BOX 7**
- Dirt Alarm® Options
  - Electrical
    - MS5 = Electrical w/ 12 in. 18 gauge 4-conductor cable
    - MS5LC = Low current MS5
    - MS10 = Electrical w/ DIN connector (male end only)
    - MS10LC = Low current MS10
    - MS12 = Electrical w/ 5 pin Brad Harrison connector (male end only)
    - MS12LC = Low current MS12
    - MS16 = Electrical w/ weather-packed sealed connector
    - MS16LC = Low current MS16
    - MS17LC = Electrical w/ 4 pin Brad Harrison male connector
  - Electrical with Thermal Lockout
    - MS5T = MS5 (see above) w/ thermal lockout
    - MS5LCT = Low current MS5T
    - MS10T = MS10 (see above) w/ thermal lockout
    - MS10LCT = Low current MS10T
    - MS12T = MS12 (see above) w/ thermal lockout
    - MS12LCT = Low current MS12T
    - MS16T = MS16 (see above) w/ thermal lockout
    - MS16LCT = Low current MS16T
    - MS17LCT = Low current MS17T
  - Electrical Visual
    - MS13 = Supplied w/ threaded connector & light
    - MS14 = Supplied w/ 5 pin Brad Harrison connector & light
  - Electrical with Thermal Lockout
    - MS13CT = MS13 (see above), direct current, w/ thermal lockout
    - MS13DCLCT = Low current MS13CT
    - MS14CT = MS14 (see above), direct current, w/ thermal lockout
    - MS14DCLCT = Low current MS14DCT

**NOTES:**
- Box 2. Replacement element part numbers are a combination of Boxes 2, 3 and 4. Example: BRZ1V E media (cellulose) elements are only available with Buna N seals.
- Box 4. Viton® is a registered trademark of DuPont Dow Elastomers.
- Box 5. B porting option supplied with metric mounting holes.
- Box 7. Standard indicator setting for non-bypassing model is 50 psi unless otherwise noted.