Top-Ported Pressure Filter

Features and Benefits

- Top-ported pressure filter
- Available with non-bypass option with high collapse element
- Offered in pipe, SAE straight thread and ISO 228 porting
- Integral inlet and outlet female test points option available
- No-Element indicator option available

Model No. of filter in photograph is CF40CC10SD5.

Applications

- Industrial
- Automotive Manufacturing
- Machine Tool
- Steel Making
- Mobile Vehicles
- Pulp & Paper
- Agriculture

Specifications

- Flow Rating: Up to 45 gpm (170 L/min) for 150 SUS (32 cSt) fluids
- Max. Operating Pressure: 4000 psi (275 bar)
- Min. Yield Pressure: 12,000 psi (828 bar), per NFPA T2.6.1
- Rated Fatigue Pressure: 1800 psi (125 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: 72 psi (5.0 bar)
  - Non-bypassing model has a blocked bypass.

- Porting Head: Aluminum
- Element Case: Steel
- Weight of CF40-1C: 14.0 lbs. (6.4 kg)
- Weight of CF40-1CC: 19.5 lbs. (8.9 kg)
- Element Change Clearance: 4.00" (100 mm) for C elements
  8.75" (219 mm) for CC elements

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- Automotive Manufacturing
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Filter Housing Specifications

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SCHROEDER INDUSTRIES 65
Top-Ported Pressure Filter

Element Performance Information

<table>
<thead>
<tr>
<th>Element</th>
<th>Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402</th>
<th>Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171</th>
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<tbody>
<tr>
<td></td>
<td>$\beta_\geq 75$</td>
<td>$\beta_\geq 100$</td>
</tr>
<tr>
<td>C3/CC3</td>
<td>6.8</td>
<td>7.5</td>
</tr>
<tr>
<td>C10/CC10</td>
<td>15.5</td>
<td>16.2</td>
</tr>
<tr>
<td>CZ1/CCZ1</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>CZ3/CCZ3/CCAS3/CCAS3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>CZ5/CC5/CCAS5/CCAS5</td>
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<td>3.0</td>
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<tr>
<td>CZ10/CC10/CCAS10/CCAS10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
<tr>
<td>CZ25/CC25</td>
<td>18.0</td>
<td>20.0</td>
</tr>
<tr>
<td>CCZX3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>CCZX10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
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</table>

Dirt Holding Capacity

<table>
<thead>
<tr>
<th>Element</th>
<th>DHC (gm)</th>
<th>Element</th>
<th>DHC (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3</td>
<td>14</td>
<td>CC3</td>
<td>30</td>
</tr>
<tr>
<td>C10</td>
<td>12</td>
<td>CC10</td>
<td>25</td>
</tr>
<tr>
<td>CZ1</td>
<td>25</td>
<td>CCZ1</td>
<td>57</td>
</tr>
<tr>
<td>CZ3/CCAS3</td>
<td>26</td>
<td>CCZ3/CCAS3</td>
<td>58</td>
</tr>
<tr>
<td>CZ5/CCAS5</td>
<td>30</td>
<td>CCZ5/CCAS5</td>
<td>63</td>
</tr>
<tr>
<td>CZ10/CCAS10</td>
<td>28</td>
<td>CCZ10/CCAS10</td>
<td>62</td>
</tr>
<tr>
<td>CZ25</td>
<td>28</td>
<td>CCZ25</td>
<td>63</td>
</tr>
<tr>
<td>CCZX3</td>
<td>26*</td>
<td>CCZX3</td>
<td>26*</td>
</tr>
<tr>
<td>CCZX10</td>
<td>28*</td>
<td>CCZX10</td>
<td>28*</td>
</tr>
</tbody>
</table>

Element Collapse Rating:
- 150 psid (10 bar) for standard elements
- 3000 psid (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions:
- C: N 3.0" (75 mm) O.D. x 4.75" (120 mm) long
- CC: 3.0" (75 mm) O.D. x 9.5" (240 mm) long

Metric dimensions in ( ).

SCHROEDER INDUSTRIES
Top-Ported Pressure Filter

Type Fluid | Appropriate Schroeder Media
---|---
**Petroleum Based Fluids** | All E Media (cellulose), Z-Media® and ASP Media (synthetic)
**High Water Content** | All Z-Media® and ASP Media (synthetic)
**Invert Emulsions** | 10 and 25 μ Z-Media® (synthetic), 10 μ ASP Media (synthetic)
**Water Glycols** | 3, 5, 10 and 25 μ Z-Media® (synthetic) and all ASP Media (synthetic)
**Phosphate Esters** | All Z-Media® and ASP Media (synthetic) with H (EPR) seal designation

Skydrol® | 3, 5, 10 and 25 μ Z-Media® (synthetic) and all ASP Media (synthetic) with H.5 seal designation

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Series</th>
<th>Element</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>C3 &amp; CC3</td>
<td>1C3</td>
<td>1CC3</td>
<td>See KF30</td>
</tr>
<tr>
<td></td>
<td>C10 &amp; CC10</td>
<td>1C10</td>
<td>1CC10</td>
<td>See KF30</td>
</tr>
<tr>
<td></td>
<td>C25 &amp; CC25</td>
<td>1C25</td>
<td>1CC25</td>
<td></td>
</tr>
<tr>
<td>Z-Media®</td>
<td>C21 &amp; CC21</td>
<td>1C21</td>
<td>1CC21</td>
<td>See KF30</td>
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<tr>
<td></td>
<td>C23 &amp; CC23</td>
<td>1C23</td>
<td>1CC23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C25 &amp; CC25</td>
<td>1C25 &amp; 1CC25</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C10 &amp; CC10</td>
<td>1C10 &amp; 1CC10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C25 &amp; CC25</td>
<td>1C25 &amp; 1CC25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

**Pressure Drop Information Based on Flow Rate and Viscosity**

<table>
<thead>
<tr>
<th>Flow (gpm)</th>
<th>Flow (L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>20</td>
<td>50</td>
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<tr>
<td>30</td>
<td>100</td>
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<tr>
<td>35</td>
<td>150</td>
</tr>
<tr>
<td>40</td>
<td>170</td>
</tr>
</tbody>
</table>

**Notes**

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

**Exercise:**

Determine ΔP at 35 gpm (132 L/min) for CF401CC10SD5 using 200 SUS (44 cSt) fluid.

**Solution:**

\[ \Delta P_{\text{housing}} = \Delta P_{\text{element}} + \Delta P_{\text{element}} \]

**Exercise:**

Determine ΔP at 35 gpm (132 L/min) for CF401CC10SD5 using 200 SUS (44 cSt) fluid.

**Solution:**

\[ \Delta P_{\text{housing}} = 8.0 \text{ psi} \times 0.50 \text{ bar} \]

\[ \Delta P_{\text{element}} = 35 \times 0.13 \times (200+150) = 6.0 \text{ psi} \]

\[ \Delta P_{\text{total}} = 8.0 + 6.0 = 14.0 \text{ psi} \]

\[ = [50 + 42] = .92 \text{ bar} \]
# Top-Ported Pressure Filter

## How to Build a Valid Model Number for a Schroeder CF40:

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
<th>BOX 8</th>
<th>BOX 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example:** NOTE: Only box 7 may contain more than one option

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
<th>BOX 8</th>
<th>BOX 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF40</td>
<td>1C</td>
<td>Z</td>
<td>10</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td>D5</td>
</tr>
</tbody>
</table>

= CF401CZ10SD5

## Notes:

- **Box 2:** Replacement element part numbers are identical to contents of Boxes 2, 3, 4, and 5. E media (cellulose) elements are only available with Buna N seals.
- **Box 5:** For options H, V, W, and H.5, all aluminum parts are anodized. H.5 seal designation includes the following: EPR seals, stainless steel wire mesh on elements, and light oil coating on housing exterior. Viton® is a registered trademark of DuPont Dow Elastomers. Skydrol® is a registered trademark of Solutia Inc.
- **Box 6:** B porting option supplied with metric mounting holes.
- **Box 7:** Options X and 50 are not available with CFN40.
- **Box 8:** Standard indicator setting for non-bypassing model is 50 psi unless otherwise noted.
- **Box 9:** N option is not available with CFN40. N option should be used in conjunction with dirt alarm.

## Filter Model Number Selection

### Filter Series

- **CF40**
- **CFN40** (Non-bypassing: requires ZX high collapse elements)

### Media Type

- **Omit**
- **E** Media (Cellulose)
- **Z** = Excellement® Z-Media® (synthetic)
- **ZX** = Excellement® Z-Media® (high collapse center tube)
- **AS** = Anti-Stat Media (synthetic)
- **M** = Media (reusable metal mesh) D size only

### Micron Rating

- **1** = 1 Micron (Z, ZW, ZX media)
- **3** = 3 Micron (AS, E, Z, ZW, ZX media)
- **5** = 5 Micron (AS, Z, ZW, ZX media)
- **10** = 10 Micron (AS, E, M, Z, ZW, ZX media)
- **25** = 25 Micron (E & Z media®)

### Seal Material

- **Omit** = Buna N
- **V** = Viton®
- **W** = Buna N
- **H** = EPR
- **H.5** = Skydrol® compatibility

### Porting

- **S** = SAE-20
- **P** = 1¼” NPTF
- **B** = ISO 228
  - **G**-1¼”

### Dirt Alarm® Options

- **Omit** = None
- **D** = Pointer
- **D5** = Visual pop-up
- **D8** = Visual w/ thermal lockout

### 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
- **MS11** = Electrical w/ 12 ft. 4-conductor wire
- **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
- **MS17** = Electrical w/ 4 pin Brad Harrison male connector

### Additional Options

- **Omit** = None
- **N** = No-Element Indicator (CF40 only)