Top-Ported Pressure Filter

Features and Benefits
- Top-ported pressure filter
- All aluminum assembly
- Meets HF2 automotive standard
- Offered in straight thread porting
- Optional drain plug in bowl for easy servicing
- Available with non-bypass option (contact factory)

Model No. of filter in photograph is YF308YZ10SD5.

Applications
- INDUSTRIAL
- AUTOMOTIVE MANUFACTURING
- MACHINE TOOL
- POWER GENERATION
- CONSTRUCTION
- STEEL MAKING
- PULP & PAPER
- AGRICULTURE
- MOBILE VEHICLES
- WASTE WATER TREATMENT

Flow Rating: Up to 25 gpm (100 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure: 3000 psi (210 bar)
Min. Yield Pressure: 10,000 psi (690 bar), per NFPA T2.6.1
Rated Fatigue Pressure: 1800 psi (124 bar), per NFPA T2.6.1-2005
Temp. Range: -20°F to 225°F (-29°C to 107°C)
Bypass Setting: Cracking: 50 psi (3.4 bar)
Non-bypassing model has a blocked bypass.
Porting Head: Aluminum
Element Case: Aluminum
Weight of YF30-4Y: 3.75 lbs. (1.70 kg)
Weight of YF30-8Y: 4.25 lbs. (1.93 kg)
Element Change Clearance: 4.50" (115 mm)

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Top-Ported Pressure Filter

Filtration Ratio Per ISO 4572/NFPA T3.10.8.8
Using automated particle counter (APC) calibrated per ISO 4402

<table>
<thead>
<tr>
<th>Element</th>
<th>Filtration Ratio</th>
<th>Filtration Ratio wrt ISO 16889</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \beta_x \geq 75 )</td>
<td>( \beta_y \geq 100 )</td>
</tr>
<tr>
<td>4YZ1/8YZ1</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>4YZ3/8YZ3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>4YZ5/8YZ5</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>4YZ10/8YZ10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
<tr>
<td>4YZ25/8YZ25</td>
<td>18.0</td>
<td>20.0</td>
</tr>
<tr>
<td>4YZX5/8YZX5</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>4YZX10/8YZX10</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>
<th>Element</th>
<th>DHC (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4YZ1</td>
<td>6.3</td>
<td>8YZ1</td>
<td>12.1</td>
</tr>
<tr>
<td>4YZ3</td>
<td>5.1</td>
<td>8YZ3</td>
<td>9.9</td>
</tr>
<tr>
<td>4YZ5</td>
<td>6.4</td>
<td>8YZ5</td>
<td>12.4</td>
</tr>
<tr>
<td>4YZ10</td>
<td>5.4</td>
<td>8YZ10</td>
<td>10.5</td>
</tr>
<tr>
<td>4YZ25</td>
<td>4.9</td>
<td>8YZ25</td>
<td>9.4</td>
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<tr>
<td>4YZX5</td>
<td>4.3</td>
<td>8YZX5</td>
<td>8.9</td>
</tr>
<tr>
<td>4YZX10</td>
<td>4.3</td>
<td>8YZX10</td>
<td>8.9</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:
4Y: N 1.77” (45 mm) O.D. x 4.50” (114 mm) long
8Y: 1.77” (45 mm) O.D. x 8.21” (209 mm) long

Metric dimensions in ( ).
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)

Fluid Compatibility

| Series | Part No. | Element Selection
---|---|---
150 SUS (32 cSt) | 50 psi (3.4 bar) bypass valve.
NF30 | NSF30 | YF30
CFX30 | PLD | DF40
CF40 | PF40 | RF50
PF40 | RFS50 | RF60
RFS50 | CF60 | CTF60
CF60 | CT60 | VF60
VF60 | LW60 | KT30
KF30 | TL50 | KF50
KF50 | KC50 | MKF50
MKF50 | KC65 | NOF30-05
NOF30-05 | NOF50-760 | FOF60-03
FOF60-03 | NMF30 | RMF60
RMF60 | Cartridge Elements | HS60
HS60 | MHS60 | KFH50

Element Selection

Based on Flow Rate

Pressure Drop Information

Based on Flow Rate and Viscosity

| Flow (L/min) | 0 | 5 | 10 | 15 | 20 | 25 |
---|---|---|---|---|---|---|
YF30 ∆P<sub>housing</sub> for fluids with sp gr = 0.86:

Note: Contact factory regarding use of Z 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.

Exercise:

Determine ∆P at 15 gpm (57 L/min) for YF308Y10SD5 using 200 SUS (44 cSt) fluid.

Solution:

| Element | ∆P<sub>housing</sub> = 7.0 psi [.48 bar] |
---|---|
| YF308Y10SD5 | ∆P<sub>element</sub> = 15 x .38 x (200÷150) = 7.6 psi |
| or | [57 x (.38÷54.9) x (44÷32) = .54 bar] |
| YF308Y10SD5 | ∆P<sub>total</sub> = 7.0 + 7.6 = 14.6 psi |
| or | [.48 + .54 = 1.02 bar] |

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

Notes
### Top-Ported Pressure Filter

**YF30**

#### How to Build a Valid Model Number for a Schroeder YF30:

<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>
</tr>
</thead>
<tbody>
<tr>
<td>YF30</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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</tbody>
</table>

**Example: NOTE: One option per box**


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<thead>
<tr>
<th>BOX 1</th>
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<tr>
<td>YF30</td>
<td>–</td>
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<td>–</td>
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</tbody>
</table>

**Element Size and Media**

<table>
<thead>
<tr>
<th>YZ1</th>
<th>YZ3</th>
<th>YZ5</th>
<th>YZ10</th>
<th>YZ25</th>
<th>YZX5</th>
<th>YZX10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y size 1 µ Excellement® Z-Media® (synthetic)</td>
<td>Y size 3 µ Excellement® Z-Media® (synthetic)</td>
<td>Y size 5 µ Excellement® Z-Media® (synthetic)</td>
<td>Y size 10 µ Excellement® Z-Media® (synthetic)</td>
<td>Y size 25 µ Excellement® Z-Media® (synthetic)</td>
<td>Y size 5 µ Excellement® Z-Media® (high collapse center tube)</td>
<td>Y size 10 µ Excellement® Z-Media® (high collapse center tube)</td>
</tr>
</tbody>
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<th>BOX 7</th>
<th>BOX 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>YF30</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

**NOTES:**

- **Box 2.** Replacement element part numbers are a combination of Boxes 2, 3, and 4. **Example: 4YZ10V**
- **Box 4.** For options V and W, all aluminum parts are anodized. Viton® is a registered trademark of DuPont Dow Elastomers.
- **Box 8.** Standard indicator setting for non-bypassing model is 50 psi unless otherwise specified.