Applications for RF4 Filters

- Mobile Equipment
- Mining Equipment
- Industrial Power Units
- Automotive Specified Equipment

The RF4 is a rugged, industry proven filter assembly. The all steel housing will provide trouble free operation in demanding return line applications. The in-tank flange option with quick release cover makes this filter series an excellent choice for a wide range of applications.

To insure the best filtration possible, all elements are multipass tested in accordance with ANSI/NFPA T3.10/8.8 RI-1990. In addition, the elements meet the SAE HF4 automotive specification.

Reliable, field proven components. Accurate and complete testing. Full performance data disclosure. We give you our best, so you can do your best.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Advantage</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top access element service</td>
<td>Oil remains in housing</td>
<td>No Spills</td>
</tr>
<tr>
<td></td>
<td>Quicker element change</td>
<td>Reduced maintenance costs</td>
</tr>
<tr>
<td>Slatted cover</td>
<td>Quick release cover</td>
<td>Reduced maintenance costs</td>
</tr>
<tr>
<td></td>
<td>Cap screws remain in housing</td>
<td>No loose parts</td>
</tr>
<tr>
<td>All steel construction</td>
<td>Durable, built to last</td>
<td>No downtime</td>
</tr>
<tr>
<td></td>
<td>Good for mining applications</td>
<td>Versatility</td>
</tr>
<tr>
<td>Visual or electrical indicators</td>
<td>Know exactly when to service elements</td>
<td>Helps prevent bypass condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No premature disposal</td>
</tr>
<tr>
<td>Cover / bypass is one</td>
<td>No loose parts during service</td>
<td>No misplaced parts</td>
</tr>
<tr>
<td>complete assembly</td>
<td>Visually examine bypass valve</td>
<td>Verify cleanliness and integrity</td>
</tr>
</tbody>
</table>

Return Line Filters
RF4 Series

Feature A dvantage Benefit

- Good for mining applications - Versatility
- Cap screws remain in housing - No loose parts
- Quicker element change - Reduced maintenance costs
- Slatted cover - No loose parts
- All steel construction - Durable, built to last
- Versatility
- Visual or electrical indicators - Helps prevent bypass condition
- No premature disposal
- Cover / bypass is one complete assembly - No loose parts during service
- Visually examine bypass valve - Verify cleanliness and integrity
RF4-1 Element Performance

Multipass tests run @ 50 gpm to 100 psid terminal - 5mg/L BUGL

Flow vs. Pressure Loss
**RF4-2 Element Performance**

**Efficiency**

- Beta Rating 10,000
- Efficiency %
  - 99.9
  - 99.5
  - 99.0
  - 95.0

**Capacity**

- Efficiency %
  - 100
  - 80
  - 60
  - 40
  - 20
  - 0
- Particle Size (Micrometre)
  - 0
  - 5
  - 10
  - 15
  - 20
  - 25
- Grams
  - 0
  - 30
  - 60
  - 90
  - 120
  - 150
  - 180
- Bar
  - 0
  - 5
  - 10
  - 15
  - 20

**Flow vs. Pressure Loss**

- LPM
  - 0
  - 100
  - 200
  - 300
  - 400
  - 500
- Grains
  - 0
  - 30
  - 60
  - 90
  - 120
  - 150
  - 180
- Bar
  - 0
  - 5
  - 10
  - 15

*Multipass tests run @ 100 gpm to 100 psid terminal - 5mg/L BUGL*
RF4 Maintenance Instructions

Element Service

1. Shut down the system power supply and relieve pressure in the filter line.
2. Loosen the hex head cap screws on the cover. Turn cover (tee handle) until cover slots clear the cap screws.
3. Remove cover and element from filter assembly.
4. Discard all disposable (cellulose, Microglass III and Par-Gel) elements. Woven wire elements are cleanable and may be reused. Ultrasonic cleaning is the best method for dislodging contaminant to achieve a like new condition.
5. Place new or clean element in housing, center it on locator in the bottom of bowl.
6. Inspect cover o-ring and replace if necessary.
7. Replace cover, centering the bypass assembly in the element. Tighten the hex head cap screw to specified torque (140-160 in/lbs.).
Return Line Filters
RF4 Series

Specifications: RF4

Pressure Ratings:
Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

Rated Fatigue Pressure:
100 psi (6.9 bar)
Design safety factor: 2:1

Operating Temperatures:
Buna: -40°F (-40°C) to 225°F (107°C)
Viton: -15°F (-26°C) to 275°F (135°C)

Element Collapse Rating: 150 psid (10.3 bar)

Element Condition Indicators:
Gauge: 0-30 psi color coded
Switch: SPST 5A @ 24 VDC

Materials:
Bowl: carbon steel
Cover: carbon steel
Handle: nylon

Shipping Weights (approximate):
Single: 13 lbs. (5.9 kg)
Double: 16 lbs. (7.3 kg)

Linear Measure: millimeter inch
HOW TO ORDER:
Select the desired symbol (in the correct position) to construct a model code.

Example:

<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>RF4</td>
<td>1</td>
<td>10Q</td>
<td>GL</td>
<td>25</td>
<td>P999</td>
<td>1</td>
<td>Design number assigned by Parker</td>
<td></td>
</tr>
</tbody>
</table>

BOX 1: Seals
Symbol | Description
--- | ---
None | Buna N (nitrile)
F3 | Fluorocarbon

BOX 2: Housing
Symbol | Description
--- | ---
RF4 | Return filter

BOX 3: Housing Length
Symbol | Description
--- | ---
1 | Single length
2 | Double length
1F | Single length with mounting flange
2F | Double length with mounting flange

BOX 4: Filter Media
Symbol | Description
--- | ---
20C | 20 micron cellulose
10C | 10 micron cellulose
03C | 3 micron cellulose
WR | Water removal
20Q | Microglass III
10Q | Microglass III
05Q | Microglass III
02Q | Microglass III

BOX 5: Indicator
Symbol | Description
--- | ---
N | No indicator, no pressure port
GL | Gauge, left side
PL | No indicator, plugged pressure port (left side)
SL | Pressure switch, left side
Note: Left side is on the viewer’s left when looking into inlet with bowl down.

BOX 6: Bypass Setting
Symbol | Description
--- | ---
25 | 25 psid
35 | 35 psid

BOX 7: PORTS
Symbol | Description
--- | ---
Inlet (Side) | E9 1½” NPT
| P9 SAE-24
Outlet (Bottom) | 99 No fitting
| E9 1½” NPT
| F8 Check valve
Note: Two symbols required. The first symbol describes inlet port.

BOX 8: Modifications
Symbol | Description
--- | ---
1 | None

BOX 9: Design Number
Symbol | Description
--- | ---
Applied to the filter by Parker Hydraulic Filter Division. Use the full model code, including the design number when ordering replacement parts.

Please note the bolded options reflect standard options with a reduced lead-time. Consult factory on all other lead-time options.

REPLACEMENT ELEMENTS

<table>
<thead>
<tr>
<th>Element Code</th>
<th>ELEMENT: SINGLE (RF4-1)</th>
<th>ELEMENT: DOUBLE (RF4-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fluorocarbon P/N</td>
<td>Fluorocarbon P/N</td>
</tr>
<tr>
<td>03C</td>
<td>925772</td>
<td>925798</td>
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<tr>
<td>10C</td>
<td>925520</td>
<td>925792</td>
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<td>20C</td>
<td>925773</td>
<td>925793</td>
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<tr>
<td>WR</td>
<td>930196</td>
<td>928557</td>
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<td>20Q</td>
<td>931018Q</td>
<td>931020Q</td>
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<tr>
<td>10Q</td>
<td>932670Q</td>
<td>932679Q</td>
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<td>05Q</td>
<td>932669Q</td>
<td>932678Q</td>
</tr>
<tr>
<td>02Q</td>
<td>932668Q</td>
<td>932677Q</td>
</tr>
</tbody>
</table>