



# RF7 Series

Return Line Filters



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## RF7 Series

### Applications for the Parker RF7 Filter

- Mobile equipment
- Power unit fabricators
- Off-line filter loops

The Parker RF7 filter is designed for those applications where dependable, yet economical, return line system protection is required. The in-tank mounting design makes the RF7 ideally suited for use by power unit fabricators and mobile equipment manufacturers...or anyone who views equipment space at a premium, but not at the expense of performance.



#### Element Condition Indicator

- True pressure differential
- Know, at a glance, when to change the filter element
- Gauge also available

#### Two-Piece Construction (Head/Tube)

- Easy in-tank mounting

#### Diffuser Tube

- Disperses return flow below reservoir fluid level
- Prevents fluid aeration
- Closed bottom provides for even fluid dispersal
- Prevents objects from falling into the reservoir during element servicing

#### Vent (optional)

- For variable displacement pump applications

#### Bypass Valves

- Virtually zero leakage
- Multiple valves for high flow

#### Cartridge/Element Handle

- Easy to remove entire assembly for servicing

#### Bypass Filter Screen

- Prevents gross contamination from passing through the filter — even during bypass

#### Cover Lock-Band with "T" Handle

- Easy access for servicing
- No loose parts to remove and handle
- No special tools required for removal

### Inside each Parker Filter... a quality Parker Element

The important item in a filter assembly is the element. It has to capture and hold contaminants that can damage or stop a machine...while at the same time allowing the required flow of clean fluid so the machine can function properly.

There are many ways to design and build an element, and it's easy to produce a low cost element. However, cost is not a good selection criteria... especially when the risk is loss of critical performance.

For instance, consider wire mesh reinforcement. Not all filter elements have it. It's used in Parker elements to keep the pleats from collapsing or bunching.

If pleats bunch, the effective surface area of the element is reduced, excessive pressure drop develops, and the filter assembly may go into the bypass mode. This condition wastes energy and allows unfiltered fluid flow back into the system, effectively shortening filter life.

#### Gasket Ring Seal

- Positive sealing for optimum element efficiency

#### Protective Perforated Cylinder

- Necessary for inside-to-outside flow
- Prevents media "blow out"

#### Wire Reinforced Media (Not Visible)

- Prevents pleat bunching
- Helps prevent media migration
- Maintains media efficiency



#### Engineered Element Design

- The right combination of pleat depth and number of pleats means lower pressure losses (longer life)
- Dirt holding capability is maximized for less frequent element change-out

#### Elements for Every Application

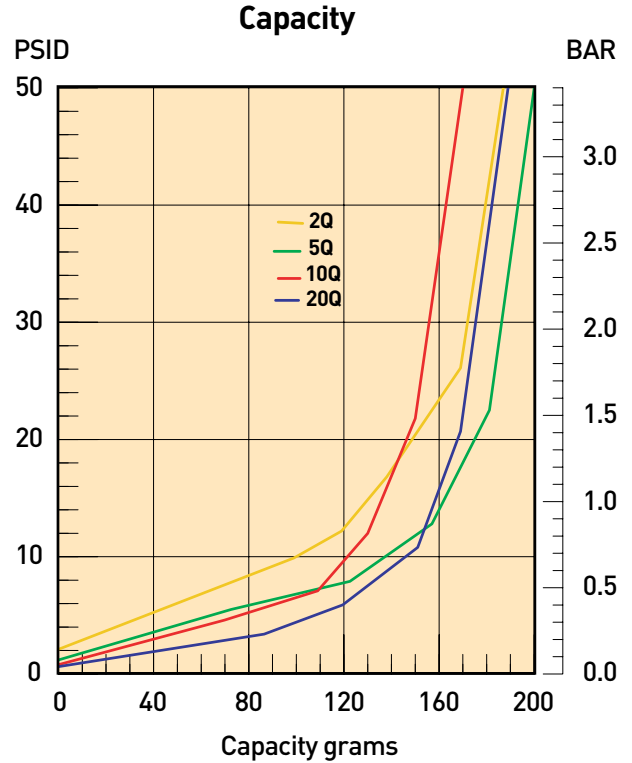
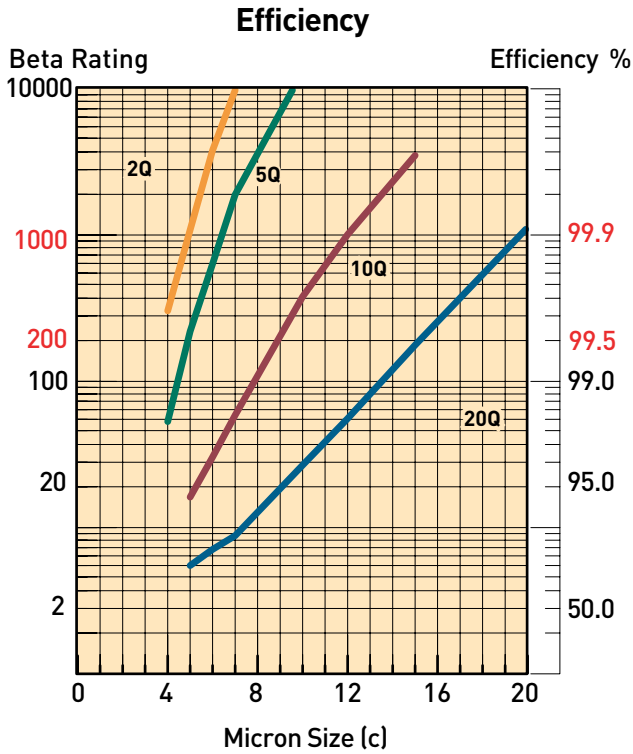
- Standard Microglass III media for long life and excellent system protection
- Economical cellulose elements also available

| Features  | Advantage  | Benefits  |
|---|--|---|
| <ul style="list-style-type: none"> <li>• Tank mounted design.</li> </ul>  | <ul style="list-style-type: none"> <li>• Saves space and reduces hardware requirements.</li> </ul>   | <ul style="list-style-type: none"> <li>• Easy to integrate into system design.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Cover fill port.</li> </ul>  | <ul style="list-style-type: none"> <li>• Allows 100% filtration of all new system oil.</li> </ul>  | <ul style="list-style-type: none"> <li>• Eliminates contamination before it can cause problems.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• High flow capacity.</li> </ul>   | <ul style="list-style-type: none"> <li>• One filter may handle all return line flows.</li> </ul>   | <ul style="list-style-type: none"> <li>• Cost savings in filters and hardware.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Broad range of filter media available – including water removal.</li> </ul>                          | <ul style="list-style-type: none"> <li>• Choose the proper medium for system parameters.</li> </ul>  | <ul style="list-style-type: none"> <li>• Cost savings by avoiding both "over" and "under" filtration.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Inside-to-outside flow through element with a closed bottom end cap.</li> </ul>                      | <ul style="list-style-type: none"> <li>• All contamination is trapped inside of element assembly.</li> </ul>   | <ul style="list-style-type: none"> <li>• Contamination is not reintroduced into the system during replacement.</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Wire reinforced Microglass III elements.</li> </ul>  | <ul style="list-style-type: none"> <li>• Rugged construction stands up to abuse of cyclic flows without performance loss.</li> <li>• Wire support reduces pleat bunching, keeps pressure drop consistent.</li> </ul> | <ul style="list-style-type: none"> <li>• The reliable filtration provided assures equipment protection, reduces downtime, maximizes element life, and allows the hydraulic system to operate properly.</li> </ul> |
| <ul style="list-style-type: none"> <li>• Multipass tested elements (per ANSI/NFPA T3.10.8.8 R1-1990 modified for fine filtration).</li> </ul> | <ul style="list-style-type: none"> <li>• Filter performance backed by recognized and accepted laboratory test standards.</li> </ul>  | <ul style="list-style-type: none"> <li>• Filters you select have consistent performance levels.</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Complete element performance data disclosure.</li> </ul>   | <ul style="list-style-type: none"> <li>• All pertinent information is provided in an easy-to-compare format.</li> </ul>  | <ul style="list-style-type: none"> <li>• Provides an easy guide to proper filter selection.</li> </ul>  |

# Return Line Filters

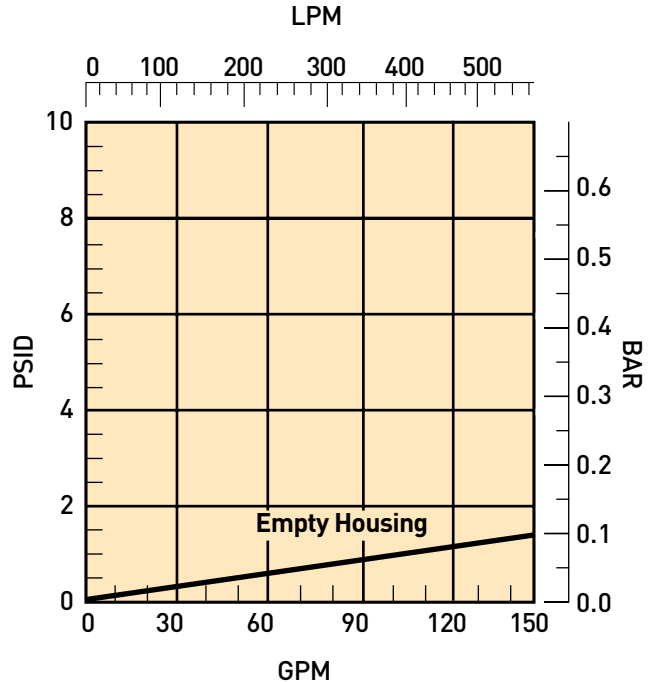
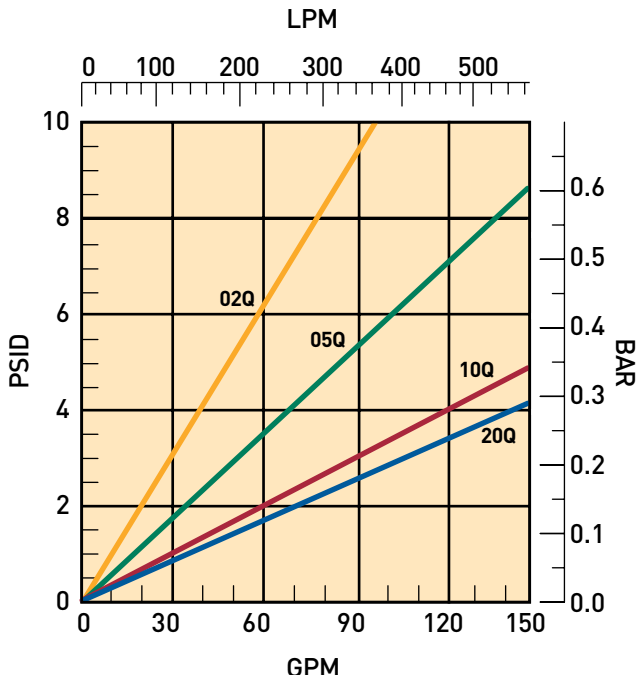
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## RF7-1 Element Performance

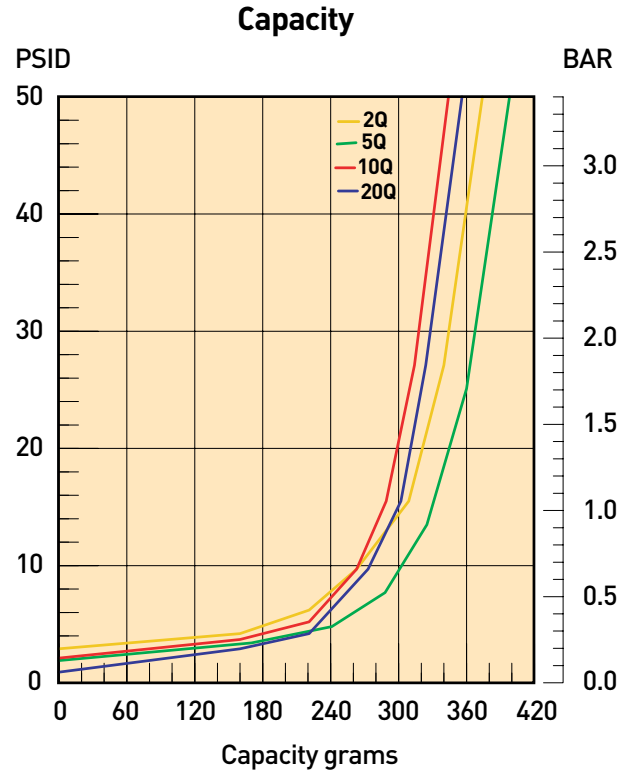
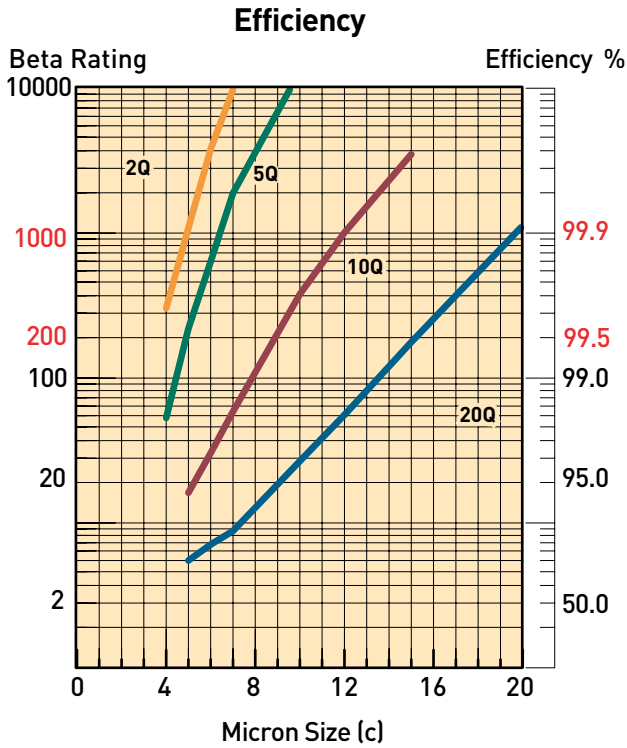


Results typical from Multi-pass tests run per test standard ISO 16889 @ 50 gpm to 50 psid terminal - 10 mg/L BUGL  
 Refer to Appendix on pages 227-228 for relationship to test standard ISO 4572.

## Flow vs. Pressure Loss

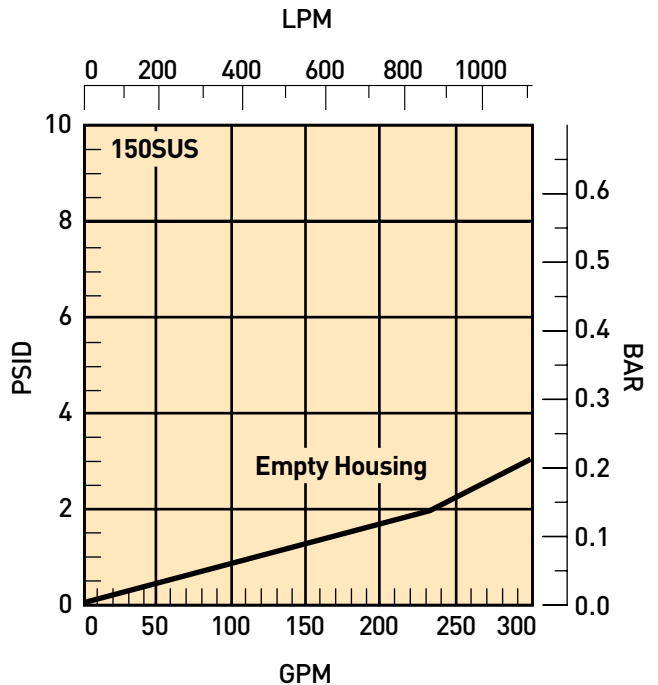
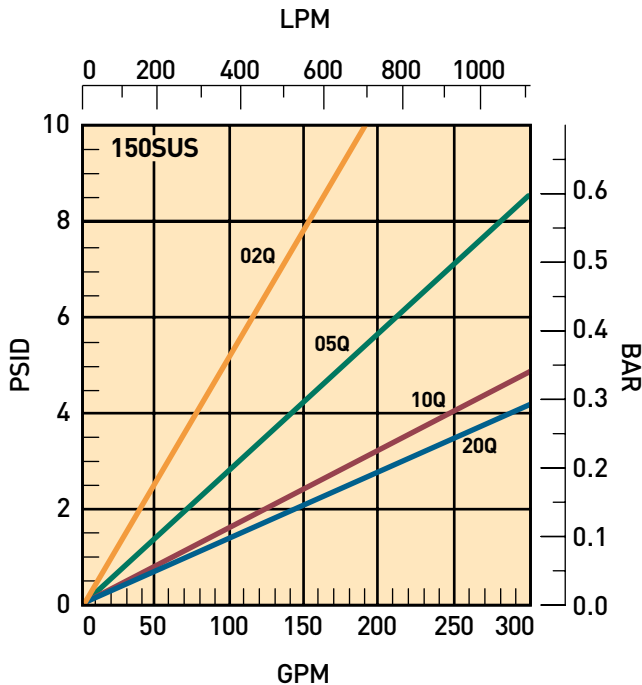


### RF7-2 Element Performance



Results typical from Multi-pass tests run per test standard ISO 16889 @ 80 gpm to 50 psid terminal - 10 mg/L BUGL  
Refer to Appendix on pages 227-228 for relationship to test standard ISO 4572.

### Flow vs. Pressure Loss



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### Specifications: RF7

#### Pressure Ratings:

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

#### Design Safety Factor: 3:1

#### Element Burst Rating:

50 psid (3.4 bar) minimum.

#### Materials:

Cast Aluminum Head & Cover  
Steel Diffuser Tube  
Steel Clamp

#### Operating Temperatures:

Nitrile; -40°F to 225°F  
(-40°C to 107°C)

Fluorocarbon; -15°F to 275°F  
(-26°C to 135°C)

#### Weight (approximate):

RF7-1 34 lbs. (15.4 kg)  
RF7-2 42 lbs. (19 kg)

#### Indicators:

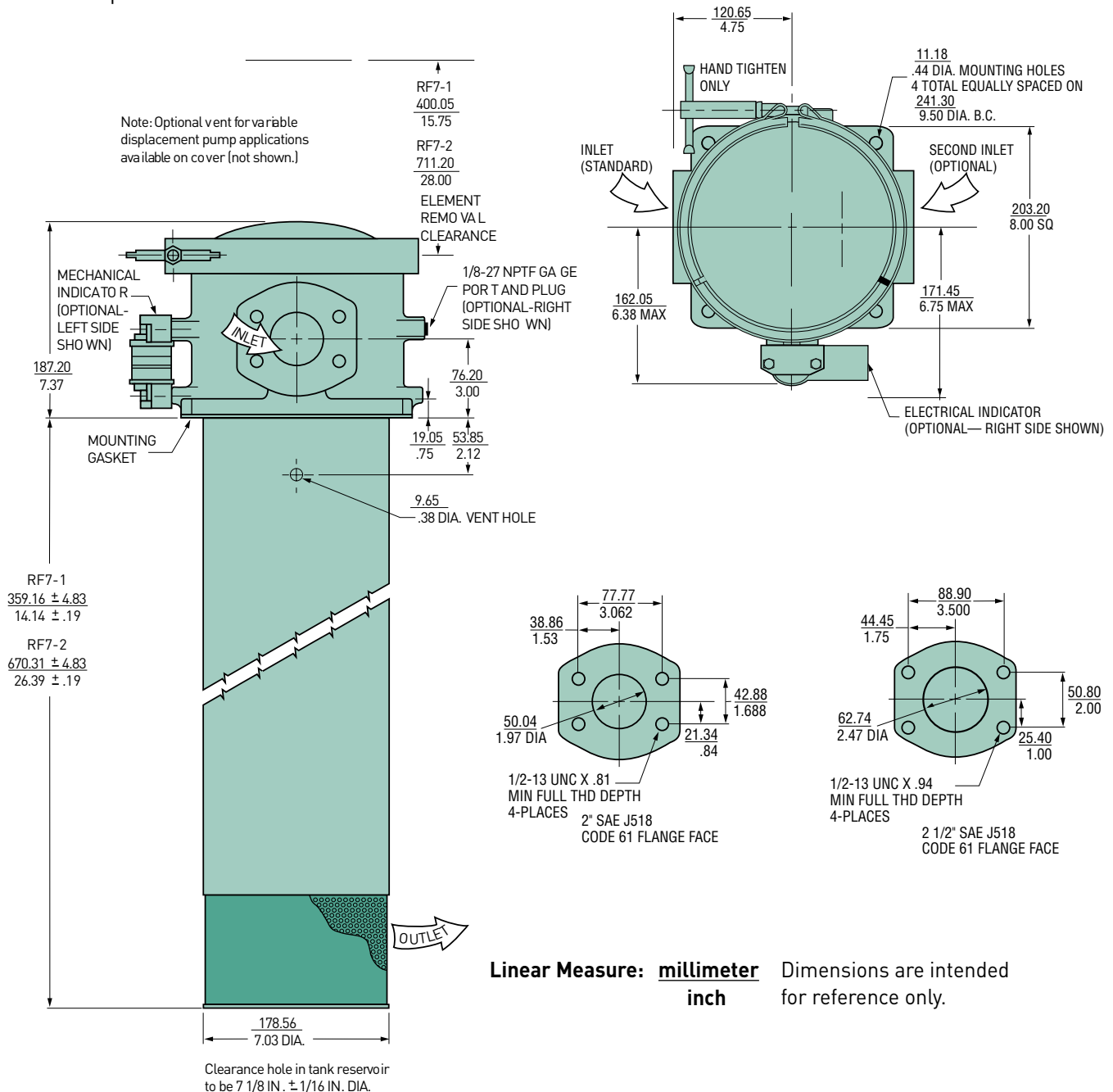
Visual system pressure type  
(gauge or pressure switch).

Visual pressure differential type.

Electrical pressure differential type.

15A @ 250 VAC

.5A @ 125 VDC



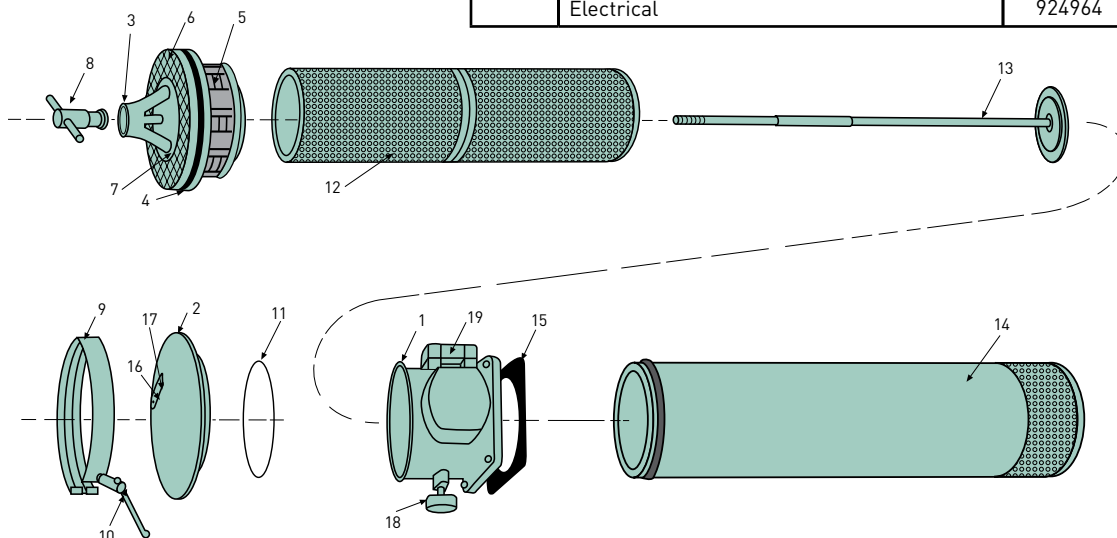
### Filter Service

When servicing an RF7 filter, use the following procedure:

- A. Stop all flow to the filter.
- B. Loosen the clamp handle counterclockwise and remove the clamp assembly.
- C. Remove the filter cover by lifting upward.
- D. Pull the entire cartridge assembly out by grabbing onto the "T" handle.
- E. Unscrew the "T" handle from the bypass assembly (with mesh screen) and remove the bypass assembly.
- F. Lift the element over the exposed rod assembly and discard.
- G. Place a new element over the rod and seat on the bottom.
- H. Re-attach the bypass assembly to the top of the element.
- I. Replace the "T" handle and hand-tighten.
- J. Firmly place the entire cartridge assembly back into the filter housing.
- K. Set the cover back on the housing, reattach the clamp assembly and hand tighten the handle.

### Parts List

| Index | Description                          | Part Number |        |
|-------|--------------------------------------|-------------|--------|
|       |                                      | RF7-1       | RF7-2  |
| 1     | <b>Head - Single Inlet</b>           |             |        |
|       | 2" SAE Flange Face w/gage ports      | 932549      | 932549 |
|       | 2 1/2" SAE Flange Face w/gage ports  | 932483      | 932483 |
|       | 2" SAE Flange Face w/indicator       | 932484      | 932484 |
|       | 2 1/2" SAE Flange Face w/indicator   | 932485      | 932485 |
|       | <b>Head - Double Inlets</b>          |             |        |
|       | 2" SAE Flange Face w/gage ports      | 932550      | 932550 |
|       | 2 1/2" SAE Flange Face w/gage ports  | 932551      | 932551 |
|       | 2" SAE Flange Face w/indicator       | 932552      | 932552 |
|       | 2 1/2" SAE Flange Face w/indicator   | 932553      | 932553 |
| 2     | <b>Cover</b>                         | 932288      | 932288 |
| 3     | <b>Bypass Mount</b>                  | 932521      | 932521 |
| 4     | <b>Lipseal</b>                       |             |        |
|       | Nitrile                              | 932415      | 932415 |
|       | Fluorocarbon                         | 932488      | 932488 |
| 5     | <b>Bypass Valve (6 )</b>             | 930507      | 930507 |
| 6     | <b>Screen</b>                        | 932416      | 932416 |
| 7     | <b>Screen Retaining Ring</b>         | 932417      | 932417 |
| 8     | <b>"T" Handle Assembly</b>           | 903889      | 903889 |
| 9     | <b>Clamp</b>                         | 909876      | 909876 |
| 10    | <b>Clamp Handle</b>                  | 926768      | 926768 |
| 11    | <b>Cover O-Ring</b>                  |             |        |
|       | Nitrile                              | N72263      | N72263 |
|       | Fluorocarbon                         | V72263      | V72263 |
| 12    | <b>Element (See model code page)</b> |             |        |
| 13    | <b>Cartridge Rod Assembly</b>        | 933067      | 932418 |
| 14    | <b>Diffuser Tube Assembly</b>        | 933064      | 932419 |
| 15    | <b>Gasket</b>                        |             |        |
|       | Nitrile                              | 932420      | 932420 |
|       | Fluorocarbon                         | 932489      | 932489 |
| 16    | <b>Nameplate</b>                     | 920928      | 920928 |
| 17    | <b>Drivescrew (2)</b>                | 900028      | 900028 |
| 18    | <b>Pressure Gauge</b>                | 936912      | 936912 |
| 19    | <b>Indicators</b>                    |             |        |
|       | Visual                               | 924776      | 924776 |
|       | Electrical                           | 924964      | 924964 |



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### HOW TO ORDER:

Select the desired symbol (in the correct position) to construct a model code.

#### Example:

| BOX 1 | BOX 2      | BOX 3    | BOX 4      | BOX 5     | BOX 6     | BOX 7       | BOX 8    |
|-------|------------|----------|------------|-----------|-----------|-------------|----------|
|       | <b>RF7</b> | <b>2</b> | <b>10Q</b> | <b>MP</b> | <b>25</b> | <b>Y999</b> | <b>1</b> |

| BOX 1: Seals<br>Symbol | Description  |
|------------------------|--------------|
| None                   | Nitrile      |
| F3                     | Fluorocarbon |

| BOX 2: Basic Assembly<br>Symbol | Description                  |
|---------------------------------|------------------------------|
| <b>RF7</b>                      | <b>In-tank return filter</b> |

| BOX 3: Length<br>Symbol | Description   |
|-------------------------|---------------|
| 1                       | Single length |
| 2                       | Double length |

| BOX 5: Indicator(s)<br>Symbol (2 Required) | (See Note A)<br>Description |
|--|-----------------------------|
| <b>P</b>                                   | <b>Gauge, port plugged</b>  |
| <b>G</b>                                   | <b>Gauge, color coded</b>   |
| S  | Pressure switch             |
| <b>M</b>                                   | <b>Visual indicator</b>     |
| E  | Electrical indicator        |

Note A: (First letter of indicator code = left side of filter head when looking into inlet with bowl down; second letter = right side of filter head when looking into inlet with bowl down.)

| BOX 7: Ports<br>Symbol | Description                          |
|------------------------|--------------------------------------|
| <u>Inlet</u>           | <u>Side</u>                          |
| <b>Y9</b>              | <b>2" SAE flange face (Standard)</b> |
| Z9                     | 2½" SAE flange face (Standard)       |
| 2Y9                    | Two Inlets, 180° apart (Optional)    |
| 2Z9                    | Two Inlets, 180° apart (Optional)    |
| <u>Outlet</u>          |                                      |
| <b>99</b>              | <b>No fitting</b>                    |

| BOX 4: Media Code<br>Symbol | Description           |
|-----------------------------|-----------------------|
| <b>20Q</b>                  | <b>Microglass III</b> |
| <b>10Q</b>                  | <b>Microglass III</b> |
| <b>05Q</b>                  | <b>Microglass III</b> |
| <b>02Q</b>                  | <b>Microglass III</b> |
| <b>10C</b>                  | <b>Cellulose</b>      |
| WR                          | Water Removal         |

| BOX 6: Bypass Setting<br>Symbol | Description    |
|---------------------------------|----------------|
| <b>25</b>                       | <b>25 psid</b> |

| BOX 8: Modifications<br>Symbol | Description |
|--------------------------------|-------------|
| <b>1</b>                       | <b>None</b> |

### Replacement Elements

| Media      | Single Length  |                | Double Length  |                |
|------------|----------------|----------------|----------------|----------------|
|            | Nitrile        | Fluorocarbon   | Nitrile        | Fluorocarbon   |
| <b>20Q</b> | <b>933800Q</b> | <b>933808Q</b> | <b>933812Q</b> | <b>933156Q</b> |
| <b>10Q</b> | <b>933802Q</b> | <b>933809Q</b> | <b>933814Q</b> | <b>933155Q</b> |
| <b>05Q</b> | <b>933804Q</b> | <b>933810Q</b> | <b>933816Q</b> | <b>933153Q</b> |
| <b>02Q</b> | <b>933806Q</b> | <b>933811Q</b> | <b>933818Q</b> | <b>933152Q</b> |
| 10C        | 908648         | 923551         | 932498         | 932503         |
| WR         | 928563         | 933853         | 932501         | 932506         |

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

