Hydrostatic Base-Ported Filter

**Features and Benefits**

- Base-ported Hydrostatic high pressure filter
- Hydrostatic transmission filter for reversing loop systems
- Filters in the “in to out” direction, bypasses in reverse direction
- Element changeout from top minimizes oil spillage
- Offered in pipe, SAE straight thread, flanged and ISO 228 porting
- Integral inlet and outlet female test points option available
- Offered in conventional subplate porting
- Completion of application questionnaire a requirement (contact factory)
- Double and triple stacking of K-size elements can be replaced by single KK or 27K-size elements

Model No. of filter in photograph is KFH501K10SD.

**Applications**

- Industrial
- Automotive Manufacturing
- Steel Making
- Mining Technology
- Mobile Vehicles

**Filter Housing Specifications**

- **Flow Rating:** Up to 70 gpm (265 L/min) for 150 SUS (32 cSt) fluids
- **Max. Operating Pressure:** 5000 psi (345 bar)
- **Min. Yield Pressure:** 15,000 psi (1035 bar), per NFPA T2.6.1
- **Rated Fatigue Pressure:** 3500 psi (240 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: 61 psi (4.2 bar)

<table>
<thead>
<tr>
<th>Porting Base &amp; Cap</th>
<th>Element Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ductile Iron</td>
<td>Steel</td>
</tr>
</tbody>
</table>

| Weight of KFH50-1K: 60.0 lbs. (27.2 kg) |
| Weight of KFH50-2K: 80.3 lbs. (36.4 kg) |
| Weight of KFH50-3K: 100.5 lbs. (45.6 kg) |

| Element Change Clearance: 8.50" (215 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K |

**Model No. of filter in photograph is KFH501K10SD.**
Hydrostatic Base-Ported Filter

KFH50

Note: Application Questionnaire must be completed and submitted prior to placing order for this filter. Contact factory for details.

Element

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

Filtration Ratio w.r.t ISO 16889
Using APC calibrated per ISO 11171

\[ \beta_x \geq 75 \quad \beta_x \geq 100 \quad \beta_x \geq 200 \quad \beta_x(c) \geq 200 \quad \beta_x(c) \geq 1000 \]

Element

Dirt Holding Capacity

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:
K: 3.9” (99 mm) O.D. x 9.0” (230 mm) long
KK: 3.9” (99 mm) O.D. x 18.0” (460 mm) long
27K: 3.9” (99 mm) O.D. x 27.0” (690 mm) long

Metric dimensions in ( ).

Element Performance Information

Element
K3/KK3/27K
K10/KK10/27K10
KZ1/KKZ1/27KZ1
KZ10/KKZ10/27KZ10/KAS10/KKAS10/27KAS10
KZ25/KKZ25/27KZ25
KZW1
KZW3/KKZW3
KZW5/KKZW5
KZW10/KKZW10
KZW25/KKZW25
KZX3/KKZX3/27KZX3
KZX10/KKZX10/27KZX10

Dirt Holding Capacity

Element
K3
K10
KZ1
KZ3/KAS3
KZ5/KAS5
KZ10/KAS10
KZ25
KZX3
KZX10

Dirt Holding Capacity (gm)
54
44
112
115
119
108
93
40*
49*

Element
K3
K10
KZ1
KZ3/KAS3
KZ5/KAS5
KZ10/KAS10
KZ25
KZX3
KZX10

Dirt Holding Capacity (gm)
108
88
224
230
238
216
186
80
98

*Based on 100 psi terminal pressure
Hydrostatic Base-Ported 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® (synthetic)
Invert Emulsions | 10 and 25 µ Z-Media® (synthetic)
Water Glycols | 3, 10 and 25 µ Z-Media® (synthetic)
Phosphate Esters | All Z-Media® (synthetic) with H (EPR) seal designation and 3 and 10 µ E media (cellulose) with H (EPR) seal designation

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

Pressure | Element | Part No.
---|---|---
To 5000 psi (345 bar) | E- Media | K3 1K3 2K3†
 | | K10 1K10 2K10†
 | | K25 1K25
 | Z-Media® | KZ1 1KZ1
 | | KZ3 1KZ3/KAS3/KKAS3/27KAS3 2KZ3† 3KZ3†
 | | KZ5 1KZ5/KAS5/KKAS5/27KAS5 2KZ5†
 | | KZ10 1KZ10/KAS10/KKAS10/27KAS10 2KZ10†
 | | KZ25 1KZ25

Flow: gpm 0 10 20 30 40 50 60 70
(L/min) 50 100 150 200 265

†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

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.

\[ \text{ Flow (L/min)} = \text{Flow (gpm)} \times \text{sp gr} \]

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

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

\( E, \Delta P \) factors @ 150 SUS (32 cSt):

<table>
<thead>
<tr>
<th>1K</th>
<th>2K</th>
<th>3K</th>
</tr>
</thead>
<tbody>
<tr>
<td>K3</td>
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<td>.04</td>
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<td>.03</td>
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<td>KZ25</td>
<td>.04</td>
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</table>

sp gr = specific gravity

The \( \Delta P \) housing curve labeled “Element Sizing” is the pressure drop between the inlet and outlet areas of the filter’s bypass valve and should be used for filter sizing.

\[ \Delta P_{filter} = \Delta P_{housing} + \Delta P_{element} \]
### How to Build a Valid Model Number for a Schroeder KFH50:

**Example**: NOTE: Only box 6 may contain more than one option

<table>
<thead>
<tr>
<th>Filter Series</th>
<th>Number of Elements</th>
<th>Element Part Number</th>
<th>Seal Material</th>
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<td>1</td>
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<td>2</td>
<td>27KZ Length</td>
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<td>27KZ5 Length</td>
<td>H5 = Skydrol® compatibility</td>
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**Filter Series**

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**Options**

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<tr>
<th>Options</th>
<th>Box 6</th>
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<tbody>
<tr>
<td>Omit = None</td>
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<tr>
<td>L = Two 1/4” NPTF inlet and outlet female test ports</td>
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<td>U = Series 1215 3/16 UNF Schroeder Check Test Point installation in cap (upstream and downstream)</td>
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<tr>
<td>UU = Series 1215 3/16 UNF Schroeder Check Test Point installation in block (upstream and downstream)</td>
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<td></td>
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</tbody>
</table>

**Dirt Alarm® Options**

<table>
<thead>
<tr>
<th>Omit = None</th>
<th>Visual</th>
<th>Thermal Lockout</th>
</tr>
</thead>
<tbody>
<tr>
<td>D = Pointer</td>
<td>D5 = Visual pop-up</td>
<td>D9 = All stainless D5</td>
</tr>
<tr>
<td>DSC = D5 in cap</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Electrical with Thermal Lockout**

| 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 | MS12LC = Low current MS12 |
| MS12 = Electrical w/ 5 pin Brad Harrison connector (male end only) | MS16 = Electrical w/ weather-packed sealed connector |
| MS15 = Low current MS15 | MS16LC = Low current MS16 |
| MS17 = Electrical w/ 4 pin Brad Harrison male connector | MS17LC = Low current MS17 |

**Electrical**

| MSST = 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 | MS12LC = Low current MS12T |
| MS15T = MS15 (see above) w/ thermal lockout | MS15LC = Low current MS15T |
| MS17T = MS17 (see above) w/ thermal lockout | MS17LC = Low current MS17T |

**Electrical Visual**

| MS13DC = MS13 (see above), direct current, w/ thermal lockout | MS13DCLC = Low current MS13DCT |
| MS14DC = MS14 (see above), direct current, w/ thermal lockout | MS14DCLC = Low current MS14DCT |

**Electrical Visual with Thermal Lockout**

| MS13DCT = MS13 (see above), direct current, w/ thermal lockout | MS13DCLCT = Low current MS13DCT |
| MS14DCT = MS14 (see above), direct current, w/ thermal lockout | MS14DCLCT = Low current MS14DCT |

**Notes:**

Box 2. Number of elements must equal 1 when using KK or 27K elements.

Box 3. Replacement element part numbers are identical to contents of Boxes 3 and 4. Double and triple stacking of K-size elements can be replaced by single KK and 27K elements, respectively. ZW media not available in 27K length.

Box 4. 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 5. For option, bolt depth .75” (19 mm). For option O, O-rings included; hardware not included.