Manifold Mounted Pressure Filter

**Features and Benefits**
- Manifold mounted pressure filter
- Offered in square head conventional subplate porting
- Direct mounting to inlet port on customer’s manifold

**Flow Rating:**
Up to 20 gpm (75 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:**
2400 psi (165 bar), per NFPA T2.6.1

**Temp. Range:**
-20°F to 225°F (-29°C to 107°C)

**Bypass Setting:**
Cracking: 40 psi (2.8 bar)
Full Flow: 85 psi (5.9 bar)

**Porting Head**
Aluminum

**Element Case**
Aluminum

**Weight of NFS30-1N:**
3.6 lbs. (1.6 kg)

**Weight of NFS30-1NN:**
4.3 lbs. (2.0 kg)

**Element Change Clearance:**
4.50” (115 mm)

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

Model No. of filter in photograph is NFS301NZ3OD5.
Manifold Mounted Pressure Filter

**Element Performance Information**

<table>
<thead>
<tr>
<th>Element</th>
<th>Filtration Ratio Per ISO 4572/NFPA T3.10.8.8</th>
<th>Filtration Ratio Wrt ISO 16889</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Using automated particle counter (APC) calibrated per ISO 4402</td>
<td>Using APC calibrated per ISO 11171</td>
</tr>
<tr>
<td></td>
<td>$\beta_{o} \geq 75$</td>
<td>$\beta_{o} \geq 100$</td>
</tr>
<tr>
<td>N3/NN3</td>
<td>6.8</td>
<td>7.5</td>
</tr>
<tr>
<td>N10/NN10</td>
<td>15.5</td>
<td>16.2</td>
</tr>
<tr>
<td>NZ1/NNZ1</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>NZ3/NNAS3/NNZ3/NNAS3</td>
<td>&lt;1.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>NZ5/NNAS5/NNZ5/NNAS5</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>NZ10/NNAS10/NNZ10/NNAS10</td>
<td>7.4</td>
<td>8.2</td>
</tr>
<tr>
<td>NZ25/NNZ25</td>
<td>18.0</td>
<td>20.0</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>N3</td>
<td>8</td>
<td>NN3</td>
<td>12</td>
</tr>
<tr>
<td>N10</td>
<td>7</td>
<td>NN10</td>
<td>10</td>
</tr>
<tr>
<td>NZ1</td>
<td>12</td>
<td>NNZ1</td>
<td>15</td>
</tr>
<tr>
<td>NZ3/NNAS3</td>
<td>12</td>
<td>NNZ3/NNAS3</td>
<td>16</td>
</tr>
<tr>
<td>NZ5/NNAS5</td>
<td>12</td>
<td>NNZ5/NNAS5</td>
<td>18</td>
</tr>
<tr>
<td>NZ10/NNAS10</td>
<td>11</td>
<td>NNZ10/NNAS10</td>
<td>15</td>
</tr>
<tr>
<td>NZ25</td>
<td>11</td>
<td>NNZ25</td>
<td>15</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:
- N: 1.75” (45 mm) O.D. x 5.25” (135 mm) long
- NN: 1.75” (45 mm) O.D. x 8.0” (200 mm) long

Metric dimensions in ( ).
Manifold Mounted 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), 3, 5, and 10 µ ASP Media (synthetic)

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Element Selection Based on Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>Part No.</td>
</tr>
<tr>
<td>E Media</td>
<td>N3 &amp; NN3</td>
</tr>
<tr>
<td>N10 &amp; NN10</td>
<td>1N10</td>
</tr>
<tr>
<td>N25 &amp; NN25</td>
<td>1N25 &amp; 1NN25</td>
</tr>
<tr>
<td>NZ1 &amp; NNZ1</td>
<td>1NZ1</td>
</tr>
<tr>
<td>NZ3 &amp; NNZ3</td>
<td>1NZ3</td>
</tr>
<tr>
<td>NZ5 &amp; NNZ5</td>
<td>1NZ5</td>
</tr>
<tr>
<td>NZ10 &amp; NNZ10</td>
<td>1NZ10 &amp; 1NNZ10</td>
</tr>
<tr>
<td>NZ25 &amp; NNZ25</td>
<td>1NZ25 &amp; 1NNZ25</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.

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

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

**Exercise:**
Determine \( \Delta P \) at 10 gpm (38 L/min) for NFS30NZN10FOD using 200 SUS (44 cSt) fluid.

**Solution:**
\[ \Delta P_{housing} = 3.0 \text{ psi} \ (0.25 \text{ bar}) \]
\[ \Delta P_{element} = 10 \times 0.35 \times (200+150) = 4.7 \text{ psi} \]
\[ \Delta P_{total} = 3.0 + 4.7 = 7.7 \text{ psi} \]

Notes:

Sizing of elements should be based on element flow information provided in the Element Selection chart above.
# Manifold Mounted Pressure Filter

## How to Build a Valid Model Number for a Schroeder NFS30

<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>NFS30</td>
<td>1N</td>
<td>Z</td>
<td>10</td>
<td>SO</td>
<td>D5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: NOTE: One option per box

- **BOX 1**
  - Filter Series
    - NFS30
    - NFSN30
    - (Non-bypassing: requires ZX high collapse elements)

- **BOX 2**
  - Number & Size of Elements
    - NFS30
      - 1
      - NFSN30
      - AS = Anti-Stat Media (synthetic)
      - Z = Excellement® Z-Media® (high collapse center tube)
      - M = Media (reusable metal mesh) N size only

- **BOX 3**
  - Media Type
    - Omit = E Media (Cellulose)
    - Z = Excellement® Z-Media® (synthetic)
    - AS = Anti-Stat Media (synthetic)
    - ZX = Excellement® Z-Media® (high collapse center tube)
    - M = Media (reusable metal mesh) N size only

- **BOX 4**
  - 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, ZW, ZX media) only N
    - 60 = 60 Micron (M media)

- **BOX 5**
  - Seal Material
    - Omit = Buna N
    - V = Viton®
    - W = Buna N

- **BOX 6**
  - Porting
    - SO = SAE-12
    - PO = ¾” NPTF
    - FO = 1” SAE 4-bolt flange Code 61
    - O = Manifold

- **BOX 7**
  - Options
    - Omit = None
    - X = Blocked bypass (N/A with NFSN30)

- **BOX 8**
  - Dirt Alarm® Options
    - Visual
      - D = Pointer
      - D5 = Visual pop-up
    - Visual with Thermal Lockout
      - D8 = Visual w/ thermal lockout
    - Electrical
      - MS5 = Electrical w/ 12 in. 18 gauge 4-conductor cable
      - MS10C = Low current MS10
      - 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
      - MS17LC = Electrical w/ 4 pin Brad Harrison male connector
    - Electrical with Thermal Lockout
      - MS5T = 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
      - MS12LCT = Low current MS12T
      - MS16T = MS16 (see above) w/ thermal lockout
      - MS16LCT = Low current MS16T
      - MS17LCT = Low current MS17T
    - Electrical Visual
      - MS13 = Supplied w/ threaded connector & light
      - MS14 = Supplied w/ 5 pin Brad Harrison connector & light (male end)
    - 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. Replacement element part numbers are identical to contents of Boxes 2, 3, 4 and 5.
- Box 5. E media (cellulose) elements are only available with Buna N seals. For options V and W, all aluminum parts are anodized. Viton® is a registered trademark of DuPont Dow Elastomers.
- Box 6. For option O, O-rings included; fastening hardware not included.
- Box 8. For options SO, PO, and FO, available dirt alarms are D and MS2 only.

---