In-Line Bulk Fuel Coalescing Filter

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**Applications**

- **Point of Use Fuel Dispensing**
- **Fleet Fuel / Bulk Fuel Transfer**
- **Bulk Fuel Unloading**
- **Protection for High-Shear Fuel Injection Systems**
- **Bulk Tank Return Loop / Recirculation**

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**Features and Benefits**

- Patent-pending, three-phase, particulate and fuel/water separation media technology
- A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today’s ultra-low sulfur diesel (ULSD) fluids
- Protects expensive Tier III and Tier IV engine components against failures caused by particulate and water transferred from bulk fuel tanks to the vehicle
- Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs
- Previously acceptable industry standard products no longer provide the high-efficiency separation needed in today’s ULSD fluids
- Housing design allows for field upgrade of any available option
- Schroeder Anti-Static Pleat® Media (ASP) is standard for all coalescing elements
- Pressure bypass indicator setting at 36 psi, with bypass valve cracking at 40 psi, allows for early indication before bypass of filter for advanced maintenance notice
- In applications >32°F (0°C) complete automation is achievable with fail-safe auto-drain feature using a remote 5 gallon (18L) or 20 gallon (75L) sump with alarm and auto shutdown
- Now available as a UL Certified, marine specific, fuel filter (ICFM)

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**Markets**

- Industrial
- Mobile Vehicles
- Marine
- Mining Technology
- Agriculture
- Power Generation
- Common Rail Injector Systems
- Fleet
- Railroad
- Bulk Fuel Filtration

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Model no. of filter in photograph is: ICFVS16LEP

Model no. of filter in photograph is: ICFM
**In-Line Bulk Fuel Coalescing Filter**

*Coalescing Elements Patent-Pending*

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating:</strong></td>
<td>Up to 16 gpm (60 L/min) for ULSD15</td>
</tr>
<tr>
<td><strong>Inlet/Outlet Connection:</strong></td>
<td>1 ½&quot; NPTF Standard, -16 (ORB) SAE J1926 Optional</td>
</tr>
<tr>
<td><strong>Max. Operating Pressure:</strong></td>
<td>150 psi (10 bar)</td>
</tr>
<tr>
<td><strong>Min. Yield Pressure:</strong></td>
<td>450 psi (31 bar)</td>
</tr>
<tr>
<td><strong>Rated Fatigue Pressure:</strong></td>
<td>90 psi (6 bar), per NFPA T2.6.1-2005</td>
</tr>
<tr>
<td><strong>Temp. Range:</strong></td>
<td>32°F to 165°F (0°C to 74°C) standard and AWD option&lt;br&gt;-20°F to 165°F (-29°C to 74°C) H option</td>
</tr>
<tr>
<td><strong>Bypass Indication:</strong></td>
<td>36 psi (2.5 bar) (Lower indication options available)</td>
</tr>
<tr>
<td><strong>Bypass Valve Cracking:</strong></td>
<td>40 psi (2.8 bar)</td>
</tr>
<tr>
<td><strong>Porting Head/Cap:</strong></td>
<td>Aluminum - Coating Option see Box 7&lt;br&gt;Element Bowl: Steel - Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td><strong>Filter Housing Weight:</strong></td>
<td>15 lbs (6.8 kg) - Base unit without options or element</td>
</tr>
<tr>
<td><strong>Element Change Clearance:</strong></td>
<td>Access from top (remove cap) - 18&quot; (457.2 mm)&lt;br&gt;Access from below (remove bowl) - 2.5&quot; (63.5 mm)</td>
</tr>
<tr>
<td><strong>Housing Sump:</strong></td>
<td>32 oz. (0.95 L)</td>
</tr>
<tr>
<td><strong>Optional:</strong></td>
<td>External water sump and non-immersion heater (power 120VAC, 235W), Sight glass, bracket, water in fuel sensor w/ or w/out remote mount light and 6' lead</td>
</tr>
</tbody>
</table>

**Note:** For other electrical options, contact factory<br>Element sold separately

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![Diagram](image-url)

Optional Brackets:
- Element top loading Option ‘B’
- Element bottom loading Option ‘R’

Metric dimensions in ( ).
In-Line Bulk Fuel Coalescing Filter

Pressure Drop Information
Based on Flow Rate and Viscosity

**ICF ∆P**

for fluids with sp gr = 0.86

<table>
<thead>
<tr>
<th>Flow L/min</th>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆P in psi</td>
<td>0</td>
<td>0.6</td>
<td>1</td>
<td>1.4</td>
<td>1.6</td>
<td>1.8</td>
<td>2</td>
<td>2.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Flow gpm</th>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>∆P in psi</td>
<td>0</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.6</td>
</tr>
</tbody>
</table>

**Notes**

**ICF ∆P**

for fluids with sp gr = 0.86

**∆P**

housing = flow x element ∆P factor x viscosity factor

El. ∆P factors @ 37 SUS (3 cSt).

C184Z3V = 0.2
C184Z5V = 0.2
C184Z7VE = 0.09

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor: Divide viscosity by 37 SUS (3 cSt).

**∆P**

filter = ∆P housing + ∆P element

**Exercise:** Determine ∆P at 16 gpm (60 L/min) for ICFVP24LEP

**Solution:**

**∆P**

housing = 2.05 psi = [0.14 bar]

**∆P**

coalescing element = 16 x 0.2 = 3.2 psi [0.22 bar]

**∆P**

total = 2.05 + 3.2 = 5.25 psi [0.36 bar]

**Coalescing Element**

<table>
<thead>
<tr>
<th>Recommended Flow</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C184Z5V</td>
<td>16 gpm</td>
</tr>
<tr>
<td>C184Z3V</td>
<td>16 gpm</td>
</tr>
<tr>
<td>C184Z7VE</td>
<td>16 gpm</td>
</tr>
</tbody>
</table>

**Flow Direction:** Inside Out

**Element Nominal Dimensions:** 4.0” (102 mm) O.D. x 18.5” (470 mm) long

*Schroeder Anti-Static Pleat Media (ASP®) is standard

*Note: Efficiency based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection. Discharge water concentration of <100 ppm free and emulsified water.
NOTES: Water in fuel sensor (WIF) supplied w/ or w/out remote mount indicator light to show full filter housing sump
T Option = WIF sensor only w/ or w/out filter housing sump full indication light or control panel
I Option = WIF sensor w/ remote mount filter housing sump full indicator light and NEMA 4X control panel supplied

NOTES: Filter Sump Heater Control Panel dimension:
6.5" W x 5.5" H x 6.5" D
(165 W x 140 H x 165 D)
Automatic Water Drain Control Panel dimension:
10" W x 8" H x 12" D
(254 W x 203.20 H x 304.80 D)
*For use above 32°F (0°C) only
Electrical cable length (Control Panel to ICF): 4 ft.
(1.22m)
Hose length for Automatic Water Drain feature
(ICF to Tank): 6 ft. (1.83m)
All control panels “NEMA 4X” rated

Metric dimensions in ( ).

NOTES: Remote Tank dimension:
5 Gallon Tank: 22" W x 9.25" L x 7.125" H
(558.80 W x 234.95 L x 180.97 H)
20 Gallon Tank: 15" W x 11" L x 31" H
(381 W x 279.40 L x 787.40 H)
Power supply for tank high level LED light: 9 VDC (battery included) Supplied w/ 9 VDC terminal for customer wiring provided.

Metric dimensions in ( ).
In-Line Fuel Coalescing Filter

*Coalescing Elements Patent-Pending

How to Build a Valid Model Number for a Schroeder ICF without element:

<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>
<th>BOX 10</th>
</tr>
</thead>
</table>

Example: ICFVP24LBSIEPAAWD5

Filter Series: ICF
Sealing Material: V = Viton®
Coalescing Element Change Indicator: L = In cap bar indicator

Mounting Option:
- B = Bracket (Element top loading)
- R = Bracket (Element bottom loading)
- Omit = None

Filter Housing Sump Level Indicator Option:
- S = Sight Glass
- I = Water In Fuel sensor w/ remote mount light indicator and 6' lead for use in factory supplied control panel
- T = Water In Fuel sensor w/ out remote light for use in customer supplied control panel
- Omit = None

Coating Option:
- EP = Epoxy paint and plating (standard)
- A = Anodized cap & head (optional)
- Omit = None

Heating Option:
- H = Filter Sump Heater
- Omit = None

Automatic Drain & Remote Sump Options:
- AWDS = Auto water drain 5 gal tank w/ failsafe (only offered for applications above 32°F (0°C) and units ordered without heater)
- AWD20 = Auto water drain 20 gal tank w/ failsafe (only offered for applications above 32°F (0°C) and units ordered without heater)
- Omit = None

Element Part Number

<table>
<thead>
<tr>
<th>Element Part Number</th>
<th>Max Flow</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C184Z5V</td>
<td>16 gpm</td>
<td>≥ 99.5%</td>
</tr>
<tr>
<td>C184Z3V</td>
<td>16 gpm</td>
<td>≥ 99.5%</td>
</tr>
<tr>
<td>C184Z7VE</td>
<td>16 gpm</td>
<td>Contact Factory for Element Data</td>
</tr>
</tbody>
</table>

Fluid Compatibility

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil

NOTES:
- For details on how to order the UL Listed ICFM, Contact Factory
- Unless automatic drain option is specified, ICF units will come standard with manual drain
- Coalescing element sold separately and selected below
- If ordering the collection of options (Box 5. B, Box 6. S, and Box 8. H) together, please contact factory
- Box 2. Viton® is a registered trademark of DuPont Dow Elastomers
- Box 6 and 7. Only two boxes that allow combination of options (S + I or EP + A)
- Box 8. Filter sump heater option only available when ordered w/out automatic water drain (AWDS or AWD20)
- Box 9. AWD fail safe is shown on page 25 (ICF)

Element Nominal Dimensions:

- 4.0” (102 mm) O.D. x 18.5” (470 mm) long

Fuel Oils

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Applications

■ Fuel dispensing and transfer filtration solution with choice of integral or blocked bypass to suit application
■ Allows users to achieve or exceed the manufacturer requirements for particulate and water content in diesel fuel
■ Designed with integrated particulate removal pre-filtration for downstream coalescing filter protection and extended element life
■ Routine element change only needed on particulate pre-filter, which saves time and money
■ Updated BDF design incorporates GHPF and GHCF filter housings for a reduced cost, improved function, and increased capacity
■ Patented GeoSeal® element sealing interface ensures quality element replacement
■ Particulate filtration available at 1 or 3 microns utilizing synthetic Z-Media® element for better contamination control
■ Patented, three-phase, particulate and fuel/water separation media technology
■ Housing design allows for field upgrade of any available option
■ Complete automation is achievable with a water and fuel sensor and fail-safe auto-drain feature using a remote 5 gallons (18L) or 20 gallons (75L) sump with alarm and auto shutdown in application >32°F (0°C)
■ Easy mounting and element service

Features and Benefits

Models no. of filter in photograph is: BDF111GGZ3CG5VDS

Markets

■ INDUSTRIAL
■ MOBILE VEHICLES
■ MARINE
■ MINING TECHNOLOGY
■ AGRICULTURE
■ POWER GENERATION
■ COMMON RAIL INJECTOR SYSTEMS
■ FLEET
■ RAILROAD
■ BULK FUEL FILTRATION

SCHROEDER INDUSTRIES | FUEL FILTRATION 27
Bulk Diesel Filter

### Specifications

**Flow Rating:**
- BDF1: up to 25 gpm (95 L/min)
- BDF2: up to 50 gpm (189 L/min)

**Inlet/Outlet Connection:**
-24 (ORB) SAE J1926

**Max. Operating Pressure:**
150 psi (10 bar)

**Temp. Range:**
-20°F to 225°F (-29°C to 107°C) w/ optional water sump heater, 32°F to 225°F (0°C to 107°C) without heater, with standard features and AWD options

<table>
<thead>
<tr>
<th>Bypass Indication</th>
<th>Particulate Filter</th>
<th>Coalescing Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>35 psi (2.4 bar)</td>
<td>35 psi (2.4 bar)</td>
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<tr>
<th>Materials of Construction</th>
<th>Particulate Filter</th>
<th>Coalescing Filter Only</th>
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<tbody>
<tr>
<td>Porting Head: Cast Aluminum, Anodized</td>
<td></td>
<td>Sump: Cast Aluminum, Anodized</td>
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<td>Element Case: Aluminum, Anodized</td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Weight</th>
<th>BDF1: 46.5 lbs</th>
<th>BDF2: 89 lbs</th>
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<thead>
<tr>
<th>Element Change Clearance</th>
<th>Particulate Filter</th>
<th>Coalescing Filter</th>
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<tbody>
<tr>
<td></td>
<td>2” (51 mm)</td>
<td>4.5” (114 mm)</td>
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</table>

<table>
<thead>
<tr>
<th>Opt. Water Sump Heater</th>
<th>120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)</th>
</tr>
</thead>
</table>

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<thead>
<tr>
<th>Opt. Visual Electrical Indicator</th>
<th>120VAC</th>
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</table>

**BDF1**

**Filter Housing**

**Flow Rate:**
- BDF1: up to 25 gpm (95 L/min)
- BDF2: up to 50 gpm (189 L/min)

**Inlet/Outlet Connection:**
-24 (ORB) SAE J1926

**Max. Operating Pressure:**
150 psi (10 bar)

**Temp. Range:**
-20°F to 225°F (-29°C to 107°C) w/ optional water sump heater, 32°F to 225°F (0°C to 107°C) without heater, with standard features and AWD options

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**Opt. Water Sump Heater:**
120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)

**Opt. Visual Electrical Indicator:**
120VAC

**Materials of Construction:**
- Particulate & Coalescing Filter
- Porting Head: Cast Aluminum, Anodized
- Element Case: Aluminum, Anodized
- Coalescing Filter Only
- Sump: Cast Aluminum, Anodized

**Weight:**
- BDF1: 46.5 lbs
- BDF2: 89 lbs

**Element Change Clearance:**
- Particulate Filter: 2” (51 mm)
- Coalescing Filter: 4.5” (114 mm)

**Opt. Water Sump Heater:**
120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)

**Opt. Visual Electrical Indicator:**
120VAC

**Specifications:**

- Metric dimensions in ( ).
- Dimensions shown are inches [millimeters] for general information and overall envelope size only.
- For complete dimensions please contact Schroeder Industries to request a certified print.

---

**Product Information:**

- BDF1: up to 25 gpm (95 L/min)
- BDF2: up to 50 gpm (189 L/min)

**Inlet/Outlet Connection:**
-24 (ORB) SAE J1926

**Max. Operating Pressure:**
150 psi (10 bar)

**Temp. Range:**
-20°F to 225°F (-29°C to 107°C) w/ optional water sump heater, 32°F to 225°F (0°C to 107°C) without heater, with standard features and AWD options

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**Opt. Water Sump Heater:**
120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)

**Opt. Visual Electrical Indicator:**
120VAC

**Materials of Construction:**
- Particulate & Coalescing Filter
- Porting Head: Cast Aluminum, Anodized
- Element Case: Aluminum, Anodized
- Coalescing Filter Only
- Sump: Cast Aluminum, Anodized

**Weight:**
- BDF1: 46.5 lbs
- BDF2: 89 lbs

**Element Change Clearance:**
- Particulate Filter: 2” (51 mm)
- Coalescing Filter: 4.5” (114 mm)

**Opt. Water Sump Heater:**
120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)

**Opt. Visual Electrical Indicator:**
120VAC

**Specifications:**

- Metric dimensions in ( ).
- Dimensions shown are inches [millimeters] for general information and overall envelope size only.
- For complete dimensions please contact Schroeder Industries to request a certified print.
Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC(g)</th>
<th>$\beta_v (c) \geq 200$</th>
<th>$\beta_v (c) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>11GGZ1V</td>
<td>172</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>11GGZ3V</td>
<td>148</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Coalescing Element

<table>
<thead>
<tr>
<th>Coalescing Element</th>
<th>Max Flow</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C125GZ5V</td>
<td>25 gpm</td>
<td>≥ 95%</td>
</tr>
</tbody>
</table>

Note:
Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

Particulate Element
Flow Direction: Outside In
Element Nominal Dimensions: 5.0" (27 mm) O.D. x 11" (279 mm) long

Coalescing Element
Flow Direction: Inside Out
Element Nominal Dimensions: 5.0" (27 mm) O.D. x 12" (305 mm) long

Dimensions shown are inches [millimeters] for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.
How to Build a Valid Model Number for a Schroeder BDF housing without element:

**Box 1**: BDF

**Box 2**: 1 (Filter Series)

**Box 3**: 11GGZ3 (Particulate Filtration)

**Box 4**: CG5 (Particulate Bypass)

**Box 5**: V (Coalescing Filtration)

**Box 6**: D5 (Coalescing Bypass)

**Example**: BDF111GZ3CG5VD5

**Box 1**
- **Filter Series**: BDF
- **Flow Rate**:
  - 1 = 25 gpm
  - 2 = 50 gpm

**Box 2**
- **Particulate Filtration**:
  - 11GGZ1 = 1 µm
  - 11GGZ3 = 3 µm

**Box 3**
- **Particulate Bypass**:
  - Omit = 40 psi
  - X = Blocked Bypass

**Box 4**
- **Coalescing Filtration**:
  - CG5 = C125GZ5V

**Box 5**
- **Coalescing Bypass**:
  - Omit = 40 psi
  - X = Blocked Bypass

**Box 6**
- **Seal Material**: V = Viton®

**Box 7**
- **Indicators**: D5 = Visual Pop-up, Manual Reset

**Box 8**
- **Options**:
  - Omit = Included Sight Glass and Manual Water Drain Valves
  - U = Downstream Test Point
  - T = Water-In-Fuel (WIF) Sensor Only
  - I = Light Indicator
  - H = Coalescing Sump Heater
  - S5 = 5 gal. Remote Tank
  - S20 = 20 gal. Remote Tank
  - AWD5 = Auto. Water Drain w/ 5 gal. Remote Tank
  - AWD20 = Auto. Water Drain w/ 20 gal. Remote Tank

---

**Particulate Elements**

<table>
<thead>
<tr>
<th>Particulate Element</th>
<th>DHC(g)</th>
<th>( \beta_x(c) \geq 200 )</th>
<th>( \beta_x(c) \geq 1000 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>11GGZ1V</td>
<td>172</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>11GGZ3V</td>
<td>148</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Coalescing Element**

- **Max Flow**: 25 gpm
- **Single Pass Water Removal Efficiency**: ≥ 95%

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

**Particulate Element**

- **Flow Direction**: Outside In
- **Element Nominal Dimensions**: 5.0” (27 mm) O.D. x 11” (279 mm) long

**Coalescing Element**

- **Flow Direction**: Inside Out
- **Element Nominal Dimensions**: 5.0” (27 mm) O.D. x 12” (305 mm) long

**Fuel Oils**

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil

**Note:**

Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500) water injection
Application Introduction:

The BDA provides a high capacity water absorbing solution for diesel fuel in a familiar process filtration housing configuration. The BDA combines the high volume particulate filtration performance of a bag housing element with a high capacity water absorbent media to provide an economic solution for particulate and water removal in diesel fuel systems. The BDA can be used for dispensing or kidney-loop installations. The filter is designed for use with standard diesel fuel as well as bio-based blends.

Features and Benefits

- One housing and bag filter provides both high capacity particulate and water removal performance.
- A particulate filtration rating of 10 µm is standard.
- Housings are high quality stainless steel, CE Marked vessels.
- A positive bag seating mechanism helps to minimize the risk of seal bypass.
- Fixed legs with height and 360° rotational adjustment allow for various mounting options.

Markets

- INDUSTRIAL
- MOBILE VEHICLES
- MARINE
- MINING TECHNOLOGY
- AGRICULTURE
- POWER GENERATION
- COMMON RAIL INJECTOR SYSTEMS
- FLEET
- RAILROAD
- BULK FUEL FILTRATION

Model no. of filter in photograph is: BDA-H-2-V-P32
### Filter Housing Specifications

<table>
<thead>
<tr>
<th>Max Flow Rating:</th>
<th>BDAH1: 35 gpm (132 L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BDAH2: 70 gpm (265 L/min)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inlet/Outlet Connection:</th>
<th>2&quot; NPTF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2&quot; SAE 4-Bolt Flange Code 61</td>
</tr>
<tr>
<td></td>
<td>2&quot; BSPF</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. Operating Pressure:</th>
<th>145 psi (10.3 bar)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Recommended Element Change Differential Pressure:</th>
<th>22 psi (1.5 bar)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Max. Element Differential Pressure:</th>
<th>55 psi (4 bar)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temp. Range:</th>
<th>-20°F to 176°F (-29°C to 80°C)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Available Gauge Porting:</th>
<th>(2) ¼&quot; BSP</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Materials of Construction:</th>
<th>304 Stainless Steel</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Weight:</th>
<th>BDAH1: 66 lbs. (30 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BDAH2: 84 lbs. (38 kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element Change Clearance:</th>
<th>Min. required 14&quot; (356 mm)</th>
</tr>
</thead>
</table>

*Note: Elements sold separately.*

---

**Metric dimensions in ( ).**

Dimensions shown are inches [millimeters] for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.
### In-Line Water Absorbing Diesel Fuel Filter

<table>
<thead>
<tr>
<th>Water Absorbing Bag Element</th>
<th>Bag Housing Size</th>
<th>Micron Rating</th>
<th>Bag Element Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA210P1PW</td>
<td>Size 1</td>
<td>10 µm</td>
<td>7” (178 mm) O.D. x 17” (432 mm) long</td>
</tr>
<tr>
<td>FA210P2PW</td>
<td>Size 2</td>
<td>10 µm</td>
<td>7” (178 mm) O.D. x 32” (813 mm) long</td>
</tr>
</tbody>
</table>

**BDAH-1 Water Absorbing Capacity**

Pressure Drop Information: $\Delta P_{\text{housing}} < 0.5$ psi

**BDAH-2 Water Absorbing Capacity**

Notes

---

SCHROEDER INDUSTRIES | FUEL FILTRATION 33
In-Line Water Absorbing Diesel Fuel Filter

**How to Build a Valid Model Number for a Schroeder BDFA housing without element:**

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDA</td>
<td>H</td>
<td>1</td>
<td>V</td>
<td>P32</td>
<td>DPG</td>
</tr>
</tbody>
</table>

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

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDA</td>
<td>H</td>
<td>1</td>
<td>V</td>
<td>P32</td>
<td>DPG</td>
</tr>
</tbody>
</table>

= **BDAH1VP32DPG**

**Filter Model Number Selection**

- **Filter Series**
  - BDA

- **Product Configuration**
  - H = Housing

- **Bag Element Size**
  - 1 = Size 1
  - 2 = Size 2

- **Housing Seal Material**
  - V = Viton®

**Element Part Number Selection**

- **Porting**
  - P32 = 2” NPTF
  - F32 = 2” SAE 4-Bolt Flange, Code 61
  - B32 = 2” BSPF

- **Filter Indicator**
  - Omit = None
  - DPG = Differential Pressure Gauge

**NOTES:**

Bag Filters sold separately and are listed below

<table>
<thead>
<tr>
<th>Water Absorbing Element</th>
<th>Bag Housing Size</th>
<th>Max Flow Rate gpm (L/min)</th>
<th>Micron Rating</th>
<th>Bag Element Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA21OP1PW</td>
<td>Size 1</td>
<td>35 (132)</td>
<td>10 µm</td>
<td>7” (178 mm) O.D. x 17” (432 mm) long</td>
</tr>
<tr>
<td>FA21OP2PW</td>
<td>Size 2</td>
<td>70 (265)</td>
<td>10 µm</td>
<td>7” (178 mm) O.D. x 32” (813 mm) long</td>
</tr>
</tbody>
</table>

**Fuel Oils**

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
GeoSeal® High-Flow Particulate Filter

Applications

Features and Benefits
- Diesel fuel particulate filter for dispensing, transfer or polishing filtration applications
- Uses patented GeoSeal® elements
- All-aluminum filter housing is fully compatible with diesel and biodiesel
- Minimal clearance needed for element service, ideal for enclosure installations
- Cartridge style element improves performance and reduces waste compared to spin-on solutions
- Port to port and mounting pattern dimensions match standard spin-on assembly

Model No. of filter in photograph is: GHPF11GGZ3V24D3R

Flow Rating: Up to 100 gpm (380 L/min)
Max. Operating Pressure: 150 psi (10.3 bar)
Min. Yield: 2600 psi (179 bar)
Temp. Range: -20°F to 225°F (-29°C to 107°C)
Bypass Setting: Cracking: 40 psi (2.8 bar)
Porting Head: Cast Aluminum, Anodized
Element Case: Aluminum, Anodized
Weight of GHPF: 7.64 lbs. (3.47 kg)
Element Change Clearance: 2" (51 mm)

Markets

Filter Housing Specifications

SCHROEDER INDUSTRIES | FUEL FILTRATION 35
Metric dimensions in ().
Dimensions shown are inches [millimeters] for general information and overall envelope size only.
For complete dimensions please contact Schroeder Industries to request a certified print.

### Element Performance Information

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Element</th>
<th>$\beta_v(c) \geq 200$</th>
<th>$\beta_v(c) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>11GGZ1V</td>
<td>&lt;4.0</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>11GGZ3V</td>
<td>4.6</td>
<td>5.8</td>
</tr>
<tr>
<td></td>
<td>11GGZ5V</td>
<td>5.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Excellement</td>
<td>11GGZ10V</td>
<td>11.4</td>
<td>13.2</td>
</tr>
<tr>
<td>Z-Media®</td>
<td>11GGZ25V</td>
<td>15.8</td>
<td>17.5</td>
</tr>
</tbody>
</table>

#### Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Media Type</th>
<th>Element</th>
<th>DHC (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>11GGZ1V</td>
<td>172</td>
</tr>
<tr>
<td></td>
<td>11GGZ3V</td>
<td>148</td>
</tr>
<tr>
<td>Excellement</td>
<td>11GGZ5V</td>
<td>174</td>
</tr>
<tr>
<td>Z-Media®</td>
<td>11GGZ10V</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>11GGZ25V</td>
<td>164</td>
</tr>
</tbody>
</table>

**Element Collapse Rating:** 150 psid (10.3 bar) for standard and non-bypassing elements

**Flow Direction:** Outside In

**Element Nominal Dimensions:** 11GG: 5" (127 mm) O.D. x 11" (305 mm) long
GeoSeal® High-Flow Particulate Filter

Diesel Fuel and Biodiesel (B100).
For other Distillate Petroleum, Contact Factory.

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Series</th>
<th>Element Part No.</th>
<th>Element selections are predicated on the use of 37 SUS (3 cSt) Diesel Fuel and Biodiesel (B100), SAE-24 porting, and a 40 psi (2.8 bar) bypass valve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-Media®</td>
<td>11GGZ1V</td>
<td>11GGZ1V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11GGZ3V</td>
<td>11GGZ3V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11GGZ5V</td>
<td>11GGZ5V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11GGZ10V</td>
<td>11GGZ10V</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11GGZ25V</td>
<td>11GGZ25V</td>
<td></td>
</tr>
</tbody>
</table>

Shown above are the elements most commonly used in this housing.

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

\[ \Delta P_{\text{element}} = \frac{\text{flow x element } \Delta P \text{ factor x viscosity factor}}{54.9} \]

**El. \Delta P factors @ 37 SUS (3 cSt):**
- 11GGZ1V 0.07
- 11GGZ3V 0.05
- 11GGZ5V 0.05
- 11GGZ10V 0.05
- 11GGZ25V 0.04

If working in units of bars & L/min, divide above factor by 54.9.

**Viscosity Factor:** Divide viscosity by 37 SUS (3 cSt).

**OF** = Contact factory.

**Notes**

**Exercise:**
Determine \( \Delta P \) at 80 gpm (303 L/min) for GHPF11GGZ3VS24D5R using 37 SUS (3 cSt) fluid.

**Solution:**
\[ \Delta P_{\text{housing}} = 6.0 \text{ psi [0.41 bar]} \]
\[ \Delta P_{\text{element}} = 80 \times 0.05 \times (37+37) = 4.0 \text{ psi} \]
\[ \text{or} \]
\[ = [303 \times (0.05+54.9) \times (3\div 3)] = 0.28 \text{ bar} \]
\[ \Delta P_{\text{total}} = 6.0 + 4.0 = 10.0 \text{ psi} \]
\[ \text{or} \]
\[ = [0.41 + 0.28 = 0.69 \text{ bar}] \]
# GeoSeal® High-Flow Particulate Filter

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

<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>
<th>BOX 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Series</td>
<td>Element Length &amp; Series</td>
<td>Element Media</td>
<td>Micron Rating</td>
<td>Element Seal Material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHPF</td>
<td>11GG</td>
<td>Z = Excellement® Z-Media® (synthetic)</td>
<td>1 = (1 µm, Z media)</td>
<td>V = Viton®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 = (3 µm, Z media)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 = (5 µm, Z media)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10 = (10 µm, Z media)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25 = (25 µm, Z media)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

GHPF - 11GGZ3-VS24D5

## NOTES:

- **Box 2:** Replacement element part numbers are a combination of Boxes 2, 3, 4 and 5.
- **Box 9:** As viewed in the direction of the fluid flow from inlet to outlet.
GeoSeal® High-Flow Coalescing Filter

Applications

Features and Benefits
- Diesel fuel coalescing filter for dispensing, transfer or polishing filtration applications
- Uses patented GeoSeal® elements
- All-aluminum filter housing is fully compatible with diesel and biodiesel
- Minimal clearance needed for element service, ideal for enclosure installations
- Cartridge style element improves performance and reduces waste compared to spin-on solutions
- A compact design with reduced dimensions compared to similar cartridge filter and spin-on solutions on the market

Model No. of filter in photograph is:
GHCFGSVS24D5RTH

Filter Housing Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rating</td>
<td>Up to 25 gpm (95 L/min)</td>
</tr>
<tr>
<td>Max. Operating Pressure</td>
<td>150 psi (10.3 bar)</td>
</tr>
<tr>
<td>Min. Yield</td>
<td>1189 psi (82 bar)</td>
</tr>
<tr>
<td>Temp. Range</td>
<td>32°F to 225°F (0°C to 107°C) Standard; -20°F to 225°F (-29°C to 107°C) Heater Option</td>
</tr>
<tr>
<td>Bypass Setting</td>
<td>40 psi (2.8 bar)</td>
</tr>
<tr>
<td>Porting Head</td>
<td>Cast Aluminum, Anodized</td>
</tr>
<tr>
<td>Element Case</td>
<td>Aluminum, Anodized</td>
</tr>
<tr>
<td>Sump</td>
<td>Cast Aluminum, Anodized</td>
</tr>
<tr>
<td>Weight of GHCF</td>
<td>19.45 lbs. (8.82 kg)</td>
</tr>
<tr>
<td>Element Change Clearance</td>
<td>4.5&quot; (114 mm)</td>
</tr>
</tbody>
</table>

Markets

SCHROEDER INDUSTRIES | FUEL FILTRATION 39
**GeoSeal® High-Flow Coalescing Filter**

**Coalescing Element**

<table>
<thead>
<tr>
<th>Element</th>
<th>Recommended Flow</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C125GZ5V</td>
<td>25 gpm</td>
<td>&gt; 95%</td>
</tr>
</tbody>
</table>

**Flow Direction:** Inside Out

**Element Nominal Dimensions:** 5” (127 mm) O.D. x 12” (305 mm) long

*Schroeder Anti-Static Pleat Media (ASP®) is standard*

**Element Collapse Rating:** 150 psid (10.3 bar) for standard and non-bypassing elements

*NOTE: Efficiency based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection. Discharge water concentration of <100 ppm free and emulsified water.*

---

**Metric dimensions in ( ).**

Dimensions shown are inches [millimeters] for general information and overall envelope size only.

For complete dimensions please contact Schroeder Industries to request a certified print.

---

**Fluid Compatibility**

Diesel Fuel and Biodiesel (B100).

For other Distillate Petroleum, Contact Factory.
GeoSeal® High-Flow Coalescing Filter

Coalescing Elements Patent-Pending

\[ \Delta P_{\text{housing}} \]

GHCF \( \Delta P_{\text{housing}} \) for fluids with sp gr = 0.86

<table>
<thead>
<tr>
<th>Flow gpm</th>
<th>( \Delta P_{\text{housing}} ) in psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>0.11</td>
</tr>
<tr>
<td>10</td>
<td>0.1</td>
</tr>
<tr>
<td>15</td>
<td>0.08</td>
</tr>
<tr>
<td>20</td>
<td>0.07</td>
</tr>
<tr>
<td>25</td>
<td>0.06</td>
</tr>
<tr>
<td>30</td>
<td>0.04</td>
</tr>
<tr>
<td>45</td>
<td>0.03</td>
</tr>
<tr>
<td>60</td>
<td>0.01</td>
</tr>
</tbody>
</table>

\[ \Delta P_{\text{element}} \]

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

Element \( \Delta P \) factors @ 37 SUS (3 cSt).

C125GZ5V = 0.098

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor: Divide viscosity by 37 SUS (3 cSt).

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

Exercise: Determine \( \Delta P \) at 25 gpm (95 L/min) for GHCFG5V

Solution:

\[ \Delta P_{\text{housing}} = 1.6 \text{ psi} = 0.11 \text{ bar} \]

\[ \Delta P_{\text{coalescing element}} = 25 \times 0.098 = 2.5 \text{ psi} = 0.17 \text{ bar} \]

\[ \Delta P_{\text{total}} = 1.6 + 2.5 = 4.1 \text{ psi} = 0.28 \text{ bar} \]

Notes

Coalescing Element | Pressure Side Coalescing |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C125GZ5V</td>
<td>Recommended Flow: 25 gpm, Single Pass Water Removal Efficiency: &gt; 95%</td>
</tr>
</tbody>
</table>

Flow Direction: Inside Out

Element Nominal Dimensions: 5" (127 mm) O.D. x 12" (305 mm) long

SCHROEDER INDUSTRIES | FUEL FILTRATION 41
How to Build a Valid Model Number for a Schroeder GHCF:

<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>GHCF</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

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

<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>GHCF</td>
<td>CG5</td>
<td>–</td>
<td>S24</td>
<td>D5</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

= GHCFCG5VS24D5R

**Filter Series**

GHCF

**Coalescing Filtration**

CG5 = C125GZSV Coalescing Element

**Element Seal Material**

V = Viton®

**Bypass Setting**

Omit = 40 psid

X = Blocked Bypass

P24 = 1.5” NPTF

**Inlet Port**

S24 = SAE-24

**Dirt Alarm® Options**

Visual

D5 = Visual pop-up w/manual reset

**Indicator Orientation**

R = Right Side

L = Left Side

**Sump Options**

Omit = Sump Sight Glass (standard)

UU = Upstream & Downstream Test Point

T = WIF Sensor Only

I = WIF Sensor w/ Indicator Lamp

H = Sump Heat (74W)

S5 = 5 gal. Water Collection Tank

S20 = 20 gal. Water Collection Tank

AWD5 = Auto Water Drain w/ 5 gal. Collection Tank

AWD20 = Auto Water Drain w/ 20 gal. Collection Tank

**NOTES:**

Box 4. A blocked bypass requires the user to ensure a pressure relief is integrated into the system to prevent overpressuring the filter housings.

Box 7. As viewed in the direction of the fluid flow from inlet to outlet.

Box 8. Test point adapter replaces the blanking plug installed opposite the element indicator.
Bulk Diesel Fuel Coalescing Filter

**Features and Benefits**

- Patent-pending, three-phase, particulate and fuel/water separation media technology
- A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today's ultra-low sulfur diesel (ULSD) fluids
- Protects expensive Tier 3 and Tier 4 engine components against failures caused by particulate and water transferred from the bulk fuels tanks to the vehicle
- Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs
- Previously acceptable industry standard products no longer provide the high-efficiency separation needed in today's ULSD fluids
- Complete automation is achievable with fail-safe auto-drain feature using a remote 5 gallon (18L) or 20 gallon (75L) sump with alarm and auto shutdown in application above 32°F (0°C)

**Application Introduction:**
The Reason for Better Bulk Fuel Filtration

Advances in diesel engine fuel injection systems have been instrumental in complying with future emission standards. Higher pressure fuel injectors produce a finer mist of fuel, which burns cleaner. Common rail injection systems run at higher pressures and allow more injections per combustion cycle improving fuel economy, engine performance with lower noise. Higher pressure fuel injector systems have tighter tolerances and require the highest efficiency, single-pass particulate and water removal to minimize wear related failures.

**Markets**

- **INDUSTRIAL**
- **MOBILE VEHICLES**
- **MARINE**
- **MINING TECHNOLOGY**
- **AGRICULTURE**
- **POWER GENERATION**
- **COMMON RAIL INJECTOR SYSTEMS**
- **FLEET**
- **RAILROAD**
- **BULK FUEL FILTRATION**

Model no. of filter in photograph is: QCFC5VS24VM
## Bulk Diesel Fuel Coalescing Filter

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating:</strong></td>
<td>Up to 70 gpm (265 L/min) for ULSD15</td>
</tr>
<tr>
<td><strong>Inlet/Outlet Connection:</strong></td>
<td>-24 (ORB) SAE J1926</td>
</tr>
<tr>
<td><strong>Drain Connection Upper:</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
</tr>
<tr>
<td><strong>Drain Connection Lower:</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
</tr>
<tr>
<td><strong>Max. Operating Pressure:</strong></td>
<td>100 psi (7 bar)</td>
</tr>
<tr>
<td><strong>Min. Yield Pressure:</strong></td>
<td>400 psi (27.6 bar) without sight gauge</td>
</tr>
<tr>
<td><strong>Rated Fatigue Pressure:</strong></td>
<td>Contact Factory</td>
</tr>
<tr>
<td><strong>Temperature range:</strong></td>
<td>-20°F to 165°F (-29°C to 74°C) Standard</td>
</tr>
<tr>
<td></td>
<td>32°F to 165°F (0°C to 74°C) with optional sight gauge</td>
</tr>
<tr>
<td><strong>Bypass Indication:</strong></td>
<td>25 psi (1.7 bar) (Lower indication options available)</td>
</tr>
<tr>
<td><strong>Bypass Valve Cracking:</strong></td>
<td>30 psi (2 bar)</td>
</tr>
<tr>
<td><strong>Materials of Construction:</strong></td>
<td>Porting Base: Anodized Aluminum</td>
</tr>
<tr>
<td></td>
<td>Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td></td>
<td>Cap: Nickel Coated Ductile Iron</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>155 Lbs. (77 kg)</td>
</tr>
<tr>
<td><strong>Element Change Clearance:</strong></td>
<td>33.8&quot; (858 mm)</td>
</tr>
</tbody>
</table>

### NOTES:

- Element is sold with housing

---

Metric dimensions in ( ).

Dimensions shown are inches [millimeters] for general information and overall envelope size only.

For complete dimensions please contact Schroeder Industries to request a certified print.
### Bulk Diesel Fuel Coalescing Filter

**Coalescing Element**

| C396Z5V | Coalescing Element
| --- | ---
| Max Flow | 70 gpm
| Single Pass Water Removal Efficiency | ≥ 99.5%

**Note:**

Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

**Flow Direction:** Inside Out

**Element Nominal Dimensions:** 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

---

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

\[ \Delta P_{\text{housing}} \text{ (bar)} = \frac{\Delta P_{\text{element}}}{54.9} \]

\[ \text{Viscosity factor: Divide viscosity by 37 SUS (3 cSt).} \]

**QCF**

\[ \Delta P \text{ (bar)} = \frac{0.17 \times \text{Flow (L/min)}}{1000} \]

**Notes**

Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

**Exercise:** Determine \( \Delta P \) at 70 gpm (265 L/min) for QCF5V24VM

**Solution:**

\[ \Delta P_{\text{housing}} = 9.2 \text{ psi} = 0.63 \text{ bar} \]

\[ \Delta P_{\text{element}} = 70 \times 0.17 = 11.9 \text{ psi} = 0.82 \text{ bar} \]

\[ \Delta P_{\text{total}} = 9.2 + 11.9 = 21.1 \text{ psi} = 1.46 \text{ bar} \]
How to Build a Valid Model Number for a Schroeder QCF Housing with Element:

<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>
</tr>
</thead>
<tbody>
<tr>
<td>QCF</td>
<td>C</td>
<td>5</td>
<td>V</td>
<td>S24</td>
<td>VM</td>
<td></td>
</tr>
</tbody>
</table>

Example:  

NOTE: One option per box  

= QCFC5VS24VM

<table>
<thead>
<tr>
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<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Series</td>
<td>Coalescing Element Series</td>
<td>Element Media Type</td>
<td>Housing Sealing Material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QCF</td>
<td>C = C396Z5V</td>
<td>S = 5 µm Coalescing</td>
<td>V = Viton®</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BOX 5</th>
<th>BOX 6</th>
<th>BOX 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porting</td>
<td>Bypass Indicator Series</td>
<td>Additional Options</td>
</tr>
<tr>
<td>S24 = -24 (ORB) SAE J1926</td>
<td>VM = Visual Pop-Up w/ Manual Reset</td>
<td>Omit = None (standard)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>H = Sump Heater</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S = Sight Gauge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWD5 = Auto water drain 5 gal tank w/ failsafe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AWD20 = Auto water drain 20 gal tank w/ failsafe</td>
</tr>
</tbody>
</table>

NOTES:

Optional sight gauge and AWD’s for use only >32° F (0°C)  
Box 4. Viton® is a registered trademark of DuPont Dow Elastomers  
Box 7. For automatic drain option, contact factory

<table>
<thead>
<tr>
<th>Coalescing Element</th>
<th>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C396Z5V</td>
<td>Max Flow: 70 gpm</td>
</tr>
<tr>
<td></td>
<td>Single Pass Water Removal Efficiency: ≥ 99.5%</td>
</tr>
</tbody>
</table>

Note:  

Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection  

Flow Direction: Inside Out  

Element Nominal Dimensions: 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

Fuel Oils:

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Features and Benefits

- Designed with integrated particulate removal pre-filtration for maximum coalescing filter element life in the downstream housing
- Sized for high flow or highly contaminated fluid applications
- Routine element change is only needed on Pre-filter (the particulate filter) which saves time and money
- Patent-pending, three-phase, particulate and fuel/water separation media technology
- A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today’s ultra-low sulfur diesel (ULSD) fluids
- Protects expensive Tier 3 and Tier 4 engine components against failures caused by particulate and water transferred from the bulk fuel tank to the vehicle
- Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs
- Previously acceptable industry standard products no longer provide the high-efficiency separation needed in today’s ULSD fluids
- In applications >32°F (0°C) complete automation is achievable with a water in fuel sensor and fail-safe auto-drain feature using a remote 5 gallons (18L) or 20 gallons (75L) sump with alarm and auto shutdown
- Schroeder Anti-Static Pleat Media (ASP®) is standard for all coalescing elements

Markets

- INDUSTRIAL
- MOBILE VEHICLES
- MARINE
- MINING TECHNOLOGY
- AGRICULTURE
- POWER GENERATION
- COMMON RAIL INJECTOR SYSTEMS
- FLEET
- RAILROAD
- BULK FUEL FILTRATION
### Specifications

<table>
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<th>Details</th>
</tr>
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<tbody>
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<td><strong>Flow Rating</strong></td>
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</tr>
<tr>
<td><strong>Inlet/Outlet Connection</strong></td>
<td>-24 (ORB) SAE J1926</td>
</tr>
<tr>
<td><strong>Drain Connection Upper</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
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<td><strong>Drain Connection Lower</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
</tr>
<tr>
<td><strong>Max. Operating Pressure</strong></td>
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</tr>
<tr>
<td><strong>Min. Yield Pressure</strong></td>
<td>400 psi (27.6 bar) without sight gauge</td>
</tr>
<tr>
<td></td>
<td>Contact factory for yield pressure rating with sight gauge</td>
</tr>
<tr>
<td><strong>Rated Fatigue Pressure</strong></td>
<td>Contact Factory</td>
</tr>
<tr>
<td><strong>Temperature range</strong></td>
<td>-20°F to 165°F (-29°C to 74°C) sump heater option</td>
</tr>
<tr>
<td></td>
<td>32°F to 165°F (0°C to 74°C) standard or AWD option</td>
</tr>
<tr>
<td><strong>Bypass Indication</strong></td>
<td>Particulate Filter</td>
</tr>
<tr>
<td></td>
<td>Coalescing Filter</td>
</tr>
<tr>
<td><strong>Flow Rating</strong></td>
<td>Particulate: 15 psi (1.03 bar)</td>
</tr>
<tr>
<td></td>
<td>Coalescing: 25 psi (1.7 bar)</td>
</tr>
<tr>
<td><strong>Bypass Valve Cracking</strong></td>
<td>Particulate Filter</td>
</tr>
<tr>
<td></td>
<td>Coalescing Filter</td>
</tr>
<tr>
<td></td>
<td>Particulate: 20 psi (1.37 bar)</td>
</tr>
<tr>
<td></td>
<td>Coalescing: 30 psi (2 bar)</td>
</tr>
<tr>
<td><strong>Materials of Construction</strong></td>
<td>Particulate Filter</td>
</tr>
<tr>
<td></td>
<td>Coalescing Filter</td>
</tr>
<tr>
<td><strong>Porting Base</strong></td>
<td>Anodized Aluminum</td>
</tr>
<tr>
<td><strong>Element Bowl</strong></td>
<td>Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td><strong>Cap</strong></td>
<td>Plated Steel</td>
</tr>
<tr>
<td><strong>Coalescing Filter</strong></td>
<td>Anodized Aluminum</td>
</tr>
<tr>
<td><strong>Element Bowl</strong></td>
<td>Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td><strong>Cap</strong></td>
<td>Plated Steel</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>441 Lbs. (200 kg)</td>
</tr>
<tr>
<td><strong>Element Change Clearance</strong></td>
<td>33.8&quot; (858 mm)</td>
</tr>
</tbody>
</table>

### NOTES:

- Elements are sold with the housing
- Metric dimensions in ( ).
- Dimensions shown are inches [millimeters] for general information and overall envelope size only.
- For complete dimensions please contact Schroeder Industries to request a certified print.
Bulk Diesel Fuel Skid

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

### Particulate Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>DHC</th>
<th>β1(c) ≥ 200</th>
<th>β1(c) ≥ 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

### Coalescing Element

**Max Flow**

<table>
<thead>
<tr>
<th>Element</th>
<th>Flow Rate</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>C396Z5V</td>
<td>70 gpm</td>
<td>≥ 99.5%</td>
</tr>
</tbody>
</table>

**Note:** Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection.

**Particulate Element**

- **Flow Direction:** Outside In
- **Element Nominal Dimensions:** 6.0” (150 mm) O.D. x 37.80” (960 mm) long

**Coalescing Element**

- **Flow Direction:** Inside Out
- **Element Nominal Dimensions:** 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

---

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

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

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

**Exercise:** Determine \( \Delta P \) at 70 gpm (265 L/min) for BDS39QPMLZ3VVM

**Solution:**

- \( \Delta P_{\text{housing}} = 10 \text{ psi} = [0.69 \text{ bar}] \)
- \( \Delta P_{\text{element (39QPMLZ1V)}} = 70 \times 0.01 = 0.7 \text{ psi} = [0.05 \text{ bar}] \)
- \( \Delta P_{\text{element (39QPMLZ3V)}} = 70 \times 0.17 = 11.9 \text{ psi} = [0.82 \text{ bar}] \)
- \( \Delta P_{\text{tota}} = 10 + 0.7 + 11.9 = 22.6 \text{ psi} = [1.56 \text{ bar}] \)
How to Build a Valid Model Number for a Schroeder BDS supplied with coalescing element:

Example: NOTE: One option per box

<table>
<thead>
<tr>
<th>BOX 1</th>
<th>BOX 2</th>
<th>BOX 3</th>
<th>BOX 4</th>
<th>BOX 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDS</td>
<td>39QPMLZ3</td>
<td>V</td>
<td>VM</td>
<td></td>
</tr>
</tbody>
</table>

Example: BDS39QPMLZ3VVM

**BOX 1**
- Filter Series
- Particulate Filter Micron Rating
- 39QPMLZ1 = 1μm
- 39QPMLZ3 = 3μm

**BOX 2**
- Housing Seal Material
- V = Viton®
- VM = Visual Pop-Up w/ Manual Reset

**BOX 3**
- Dirt Alarm®
- VM = Visual Pop-Up w/ Manual Reset

**BOX 5**
- Additional Options
- Omit = None (standard)
- H = Sump Heater
- S = Sight Gauge
- AWD5 = Auto water drain 5 gal tank w/ failsafe
- AWD20 = Auto water drain 20 gal tank w/ failsafe
- C = Cla-Val® Flow Control Valve (2” ANSI 150# flange)

**NOTES:**
- Optional AWD for use only >32° F (0°C)
- Box 4. Viton® is a registered trademark of DuPont Dow Elastomers

**Filtration Ratio per ISO 16889**
Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
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</table>

**Coalescing Element**

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<tr>
<th>Max Flow</th>
<th>Single Pass Water Removal Efficiency</th>
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<tbody>
<tr>
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</tbody>
</table>

**Note:**
- Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

**Particulate Element**
- Flow Direction: Outside In
- Element Nominal Dimensions: 6.0” (150 mm) O.D. x 37.80” (960 mm) long

**Coalescing Element**
- Flow Direction: Inside Out
- Element Nominal Dimensions: 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

**Fuel Oils**
- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Features and Benefits

- Designed with integrated particulate removal pre-filtration for maximum coalescing filter element life in the downstream housing
- Sized for higher flows or highly contaminated fluid applications
- Routine element change is only needed on pre-filter (the particulate filter) which saves time and money
- Patent-pending, three-phase, particulate and fuel/water separation media technology
- A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today's ultra-low sulfur diesel (ULSD) fluids
- Protects expensive Tier 3 and Tier 4 engine components against failures caused by particulate and water transferred from the bulk fuel tank to the vehicle
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Markets

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- MOBILE VEHICLES
- MARINE
- MINING TECHNOLOGY
- AGRICULTURE
- POWER GENERATION
- COMMON RAIL INJECTOR SYSTEMS
- FLEET
- RAILROAD
- BULK FUEL FILTRATION

Model no. of filter in photograph is: BDS250QPMZ3VVM
### Bulk Diesel Multi-Skid

**Flow Rating:** Up to 140 gpm (530 L/min) for ULSD15

**Inlet/Outlet Connection:** -32 (ORB) SAE J1926

**Drain Connection Upper:** 1/4" NPT Ball Valve

**Drain Connection Lower:** 1/4" NPT Ball Valve

**Max. Operating Pressure:** 100 psi (7 bar)

**Min. Yield Pressure:** 400 psi (27.6 bar) without sight gauge

Contact factory for yield pressure rating with sight gauge

**Rated Fatigue Pressure:** Contact Factory

**Temperature range:** -20°F to 165°F (-29°C to 74°C) sump heater option

32°F to 165°F (0°C to 74°C) standard or AWD option

**Bypass Indication:**
- Particulate Filter (Lower indication options available)
- Coalescing Filter

**Bypass Valve Cracking:**
- Particulate Filter: 15 psi (1.03 bar)
- Coalescing Filter: 25 psi (1.7 bar)

**Materials of Construction:**
- Particulate Filter: Porting Base: Anodized Aluminum
- Coalescing Filter: Porting Base: Anodized Aluminum
- Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)
- Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)
- Cap: Plated Steel
- Cap: Plated Steel

**Weight:** 596 Lbs. (270 kg)

**Element Change Clearance:** 33.8” (858 mm)

**NOTES:**
Element are sold with the housing

---

**Dimensions:**
- Metric dimensions in ( ).
- Dimensions shown are inches [millimeters] for general information and overall envelope size only.
- For complete dimensions please contact Schroeder Industries to request a certified print.
**Particulate Elements**  
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**Coalescing Element**

**Pressure Side Coalescing**

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<th>Element</th>
<th>Max Flow</th>
<th>Single Pass Water Removal Efficiency</th>
</tr>
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Note: Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

Particulate Element
- **Flow Direction:** Outside In
- **Element Nominal Dimensions:** 6.0” (150 mm) O.D. x 37.80” (960 mm) long

Coalescing Element
- **Flow Direction:** Inside Out
- **Element Nominal Dimensions:** 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

\[ \Delta P_{housing} \]

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

\( \Delta P_{filter} = \Delta P_{housing} + \Delta P_{element} \)

**Exercise:** Determine \( \Delta P \) at 70 gpm (265 L/min) for BDS239QPMLZ3VM

**Solution:**
- \( \Delta P_{housing} = 3.0 \text{ psi} = [0.21 \text{ bar}] \)
- \( \Delta P_{element (39QPMLZ1V)} = 70 \times 0.01 = 0.7 \text{ psi} [0.05 \text{ bar}] \)
- \( \Delta P_{element (C396)} = 70 \times 0.17 = 11.9 \text{ psi} [0.82 \text{ bar}] \)
- \( \Delta P_{filter} = 3.0 + 0.7 + 11.9 = 15.6 \text{ psi} [1.07 \text{ bar}] \)
How to Build a Valid Model Number for a Schroeder BDS Housing Supplied with Element:

BOX 1
BOX 2
BOX 3
BOX 4
BOX 5
BOX 6

Example: NOTE: One option per box

BOX 1
BOX 2
BOX 3
BOX 4
BOX 5
BOX 6
BDS
2
39QPMLZ3
V
VM
= BDS239QPMLZ3VVM

NOTES:
- Optional AWD for use only >32° F (0°C)
- Box 4. Viton® is a registered trademark of DuPont Dow Elastomers

Fluid Compatibility
- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Bulk Diesel Multi-Skid

Features and Benefits

■ Designed with integrated particulate removal pre-filtration for maximum coalescing filter element life in the downstream housing
■ Sized for higher flows or highly contaminated fluid applications
■ Routine element change is only needed on pre-filter (the particulate filter) which saves time and money
■ Patent-pending, three-phase, particulate and fuel/water separation media technology
■ A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today's ultra-low sulfur diesel (ULSD) fluids
■ Protects expensive Tier 3 and Tier 4 engine components against failures caused by particulate and water transferred from the bulk fuel tank to the vehicle
■ Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs
■ Previously acceptable industry standard products no longer provide the high-efficiency separation needed in today's ULSD fluids
■ In applications >32°F (0°C) complete automation is achievable with a water in fuel sensor fail-safe auto-drain feature using a remote 5 gallon (18L) or 20 gallon (75L) sump with alarm and auto shutdown
■ Schroeder Anti-Static Pleat Media (ASP®) is standard for all coalescing elements

Markets

- INDUSTRIAL
- MOBILE VEHICLES
- MARINE
- MINING TECHNOLOGY
- AGRICULTURE
- POWER GENERATION
- COMMON RAIL INJECTOR SYSTEMS
- FLEET
- RAILROAD
- BULK FUEL FILTRATION

Model no. of filter in photograph is: BDS39QPMZ3VVM
**Bulk Diesel Multi-Skid**

**Filter Housing Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating:</strong></td>
<td>Up to 140 gpm to 210 gpm (530 to 795 L/min) for ULSD15</td>
</tr>
<tr>
<td><strong>Inlet/Outlet Connection:</strong></td>
<td>-32 (ORB) SAE J1926</td>
</tr>
<tr>
<td><strong>Drain Connection Upper:</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
</tr>
<tr>
<td><strong>Drain Connection Lower:</strong></td>
<td>1/4&quot; NPT Ball Valve</td>
</tr>
<tr>
<td><strong>Max. Operating Pressure:</strong></td>
<td>100 psi (7 bar)</td>
</tr>
<tr>
<td><strong>Min. Yield Pressure:</strong></td>
<td>400 psi (27.6 bar) without sight gauge</td>
</tr>
<tr>
<td><strong>Contact factory for yield pressure rating with sight gauge</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Rated Fatigue Pressure:</strong></td>
<td>Contact Factory</td>
</tr>
<tr>
<td><strong>Temperature range:</strong></td>
<td>-20°F to 165°F (-29°C to 74°C) sump heater option</td>
</tr>
<tr>
<td><strong>32°F to 165°F (0°C to 74°C) standard or AWD option</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Bypass Indication:</strong></td>
<td>Particulate Filter, Particulate: 15 psi (1.03 bar)</td>
</tr>
<tr>
<td><strong>(Lower indication options available)</strong></td>
<td>Coalescing Filter, Coalescing: 25 psi (1.7 bar)</td>
</tr>
<tr>
<td><strong>Bypass Valve Cracking:</strong></td>
<td>Particulate: 20 psi (1.37 bar)</td>
</tr>
<tr>
<td><strong>Materials of Construction:</strong></td>
<td>Particulate Filter, Porting Base: Anodized Aluminum</td>
</tr>
<tr>
<td><strong>Element Bowl:</strong></td>
<td>Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td><strong>Cap:</strong></td>
<td>Plated Steel</td>
</tr>
<tr>
<td><strong>Coalescing Filter</strong></td>
<td>Porting Base: Anodized Aluminum</td>
</tr>
<tr>
<td><strong>Element Bowl:</strong></td>
<td>Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)</td>
</tr>
<tr>
<td><strong>Cap:</strong></td>
<td>Plated Steel</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>596 lbs. (270 kg)</td>
</tr>
<tr>
<td><strong>Element Change Clearance:</strong></td>
<td>33.8&quot; (858 mm)</td>
</tr>
</tbody>
</table>

**NOTES:**

Elements are sold with the housing

---

**Dimensions shown are inches for general information and overall envelope size only.**

**For complete dimensions please contact Schroeder Industries to request a certified print.**
### Bulk Diesel Multi-Skid

**Filtration Ratio per ISO 16889**
Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>$\beta_v (c) \geq 200$</th>
<th>$\beta_v (c) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coalescing Element</th>
<th>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max Flow</td>
</tr>
<tr>
<td>C396Z5V</td>
<td>70 gpm</td>
</tr>
</tbody>
</table>

Note: Contact Factory for deltaP housing data

**Pressure Drop Information**
Based on Flow Rate and Viscosity

### Particulate Performance Information

#### Element

**Particulate Element**
- Flow Direction: Outside In
- Element Nominal Dimensions: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

**Coalescing Element**
- Flow Direction: Inside Out
- Element Nominal Dimensions: 6.4" (163 mm) O.D. x 39.4" (1001 mm) long

### Delta P

$\Delta P_{\text{housing}}$

BDS $\Delta P_{\text{housing}}$ for fluids with sp gr= 0.86

$\Delta P_{\text{element}}$

$\Delta P_{\text{element}} = $ flow x element $\Delta P$ factor x viscosity factor

- El. $\Delta P$ factors @ 37 SUS (3 cSt).
- $\Delta P_{\text{element}}$ factor for C396 Z5V = .17
- $\Delta P_{\text{element}}$ factor for 39QPMLZ1V = .01
- $\Delta P_{\text{element}}$ factor for 39QPMLZ3V = .01

If working in units of bars & L/min, divide above factor by 54.9

Viscosity factor: Divide viscosity by 37 SUS (3 cSt)

### Notes

#### Exercise:
Determine $\Delta P$ at 70 gpm (265 L/min) for BDS239QPMLZ3VVM

**Solution:**

$\Delta P_{\text{housing}} = 3.0$ psi = [ 0.21 bar]

$\Delta P_{\text{element}} (39QPMLZ1V) = 70 \times 0.01 = 0.7$ psi [.05 bar]

$\Delta P_{\text{element}} (39QPMLZ3V) = 70 \times 0.17 = 11.9$ psi [.82 bar]

$\Delta P_{\text{total}} = 3.0 + 0.7 + 11.9 = 15.6$ psi [1.07 bar]
How to Build a Valid Model Number for a Schroeder BDS Housing Supplied with Element:

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: NOTE: One option per box

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDS</td>
<td>3</td>
<td>39QPMLZ3</td>
<td>V</td>
<td>VM</td>
<td>= BDS339QPMLZ3VVM</td>
</tr>
</tbody>
</table>

BOX 1
- Filter Series
  - BDS

BOX 2
- No. of Coalescing Filters
  - 3 = 210gpm

BOX 3
- Particulate Filter Micron Rating
  - 39QPMLZ1 = 1μm
  - 39QPMLZ3 = 3μm

BOX 4
- Housing Seal Material
  - V = Viton®

BOX 5
- Dirt Alarm®
  - VM = Visual Pop-Up w/ Manual Reset

BOX 6
- Sump Options
  - Omit = None (standard)
  - H = Sump Heater
  - S = Sight Gauge
  - AWD5 = Auto water drain 5 gal tank w/ failsafe
  - AWD20 = Auto water drain 20 gal tank w/ failsafe
  - C = Cla-Val® Flow Control Valve (2” ANSI 150# flange)

NOTES:
- Optional AWD for use only >32° F (0°C)
- Box 4. Viton® is a registered trademark of DuPont Dow Elastomers

### Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>$\beta_x (c) \geq 200$</th>
<th>$\beta_x (c) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

### Coalescing Element

<table>
<thead>
<tr>
<th>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Flow</td>
</tr>
<tr>
<td>Single Pass Water Removal Efficiency</td>
</tr>
<tr>
<td>70 gpm</td>
</tr>
</tbody>
</table>

Note:
- Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

### Particulate Element

- Flow Direction: Outside In
- Element Nominal Dimensions: 6.0” (150 mm) O.D. x 37.80” (960 mm) long

### Coalescing Element

- Flow Direction: Inside Out
- Element Nominal Dimensions: 6.4” (163 mm) O.D. x 39.4” (1001 mm) long

### Fluid Compatibility
- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Features and Benefits

■ Designed with integrated particulate removal pre-filtration for maximum coalescing filter element life in the downstream housing
■ Sized for higher flows or highly contaminated fluid applications
■ Routine element change is only needed on pre-filter (the particulate filter) which saves time and money
■ Patent-pending, three-phase, particulate and fuel/water separation media technology
■ A revolutionary element designed for the highest single-pass water and particulate removal efficiencies in today's ultra-low sulfur diesel (ULSD) fluids
■ Protects expensive Tier 3 and Tier 4 engine components against failures caused by particulate and water transferred from the bulk fuel tank to the vehicle
■ Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs
■ Previously acceptable industry standard products no longer provide the high-efficiency separation needed in today's ULSD fluids
■ In applications >32°F (0°C) complete automation is achievable with a water in fuel sensor fail-safe auto-drain feature using a remote 5 gallon (18L) or 20 gallon (75L) sump with alarm and auto shutdown
■ Schroeder Anti-Static Pleat Media (ASP®) is standard for all coalescing elements

Markets

■ INDUSTRIAL
■ MOBILE VEHICLES
■ MARINE
■ MINING TECHNOLOGY
■ AGRICULTURE
■ POWER GENERATION
■ COMMON RAIL INJECTOR SYSTEMS
■ FLEET
■ RAILROAD
■ BULK FUEL FILTRATION
Bulk Diesel Multi-Skid

**Flow Rating:** From 210 gpm to 280 gpm (795 to 1060 L/min) for ULSD15

**Inlet/Outlet Connection:** -32 (ORB) SAE J1926

**Drain Connection Upper:** 1/4" NPT Ball Valve

**Drain Connection Lower:** 1/4" NPT Ball Valve

**Max. Operating Pressure:** 100 psi (7 bar)

**Min. Yield Pressure:** 400 psi (27.6 bar) without sight gauge

**Rated Fatigue Pressure:** Contact Factory

**Temperature range:** -20°F to 165°F (-29°C to 74°C) sump heater option

32°F to 165°F (0°C to 74°C) standard or AWD option

**Bypass Indication:**
- Particulate Filter: Contact Factory
- Coalescing Filter: Contact Factory

**Bypass Valve Cracking:**
- Particulate Filter: 20 psi (1.37 bar)
- Coalescing Filter: 30 psi (2 bar)

**Materials of Construction:**
- Particulate Filter:
  - Porting Base: Anodized Aluminum
  - Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)
  - Cap: Plated Steel
- Coalescing Filter:
  - Porting Base: Anodized Aluminum
  - Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)
  - Cap: Plated Steel

**Weight:** 904 Lbs. (410 kg)

**Element Change Clearance:** 33.8" (858 mm)

**NOTES:**

Elements are sold with the housing.

---

Metric dimensions in ( ).

Dimensions shown are inches for general information and overall envelope size only.

For complete dimensions please contact Schroeder Industries to request a certified print.
**Bulk Diesel Multi-Skid**

**Particulate Elements**

<table>
<thead>
<tr>
<th>Element</th>
<th>DHC</th>
<th>βc (c)</th>
<th>βu (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&gt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&gt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Coalescing Element**

- **Flow Direction:** Outside In
- **Element Nominal Dimensions:** 6.0” (150 mm) O.D. x 37.80” (960 mm) long

**Notes:**
- Contact Factory for deltaP housing data
- Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

**Pressure Drop Information**

Based on Flow Rate and Viscosity

<table>
<thead>
<tr>
<th>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow: Max 70 gpm</td>
</tr>
<tr>
<td>Single Pass Water Removal Efficiency: ≥ 99.5%</td>
</tr>
</tbody>
</table>

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>βc (c)</th>
<th>βu (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&gt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&gt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Exercise:** Determine ΔP at 70 gpm (265 L/min) for BDS239QPMLZ3VM

**Solution:**

- **ΔPhousing = 3.0 psi = [0.21 bar]**
- **ΔPelement (39QPML1V) = 70 x 0.01 = 0.7 psi [0.05 bar]**
- **ΔPelement (C396) = 70 x 0.17 = 11.9 psi [0.82 bar]**
- **ΔPtotal = 3.0 + 0.7 + 11.9 = 15.6 psi [1.07 bar]**
How to Build a Valid Model Number for a Schroeder BDS Housing Supplied with
Element:

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: NOTE: One option per box

<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>
</tr>
</thead>
<tbody>
<tr>
<td>BDS</td>
<td>4</td>
<td>39QPMLZ3</td>
<td>V</td>
<td>VM</td>
<td>= BDS439QPMLZ3VVM</td>
</tr>
</tbody>
</table>

**Filter Series**

- BDS

**No. of Coalescing Filters**

- 4 = 280gpm

**Particulate Filter Micron Rating**

- 39QPMLZ1 = 1μm
- 39QPMLZ3 = 3μm

**Housing Seal Material**

- V = Viton®

**Dirt Alarm®**

- VM = Visual Pop-Up w/ Manual Reset

**Sump Options**

- Omit = None (standard)
- H = Sump Heater
- S = Sight Gauge
- AWD5 = Auto water drain 5 gal tank w/ failsafe
- AWD20 = Auto water drain 20 gal tank w/ failsafe
- C = Cla-Val® Flow Control Valve (2" ANSI 150# flange)

**NOTES:**

Optional AWD for use only >32° F (0°C)
Box 4. Viton® is a registered trademark of DuPont Dow Elastomers

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>$\beta_{a}(c) \geq 200$</th>
<th>$\beta_{w}(c) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>39QPMLZ1V</td>
<td>1485 grams</td>
<td>&lt;4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>1525 grams</td>
<td>&lt;4.0</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Coalescing Element**

- C39625V
  - Max Flow: 70 gpm
  - Single Pass Water Removal Efficiency: ≥ 99.5%

Note: Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection

**Particulate Element**

- Flow Direction: Outside In
- Element Nominal Dimensions: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

**Coalescing Element**

- Flow Direction: Inside Out
- Element Nominal Dimensions: 6.4" (163 mm) O.D. x 39.4" (1001 mm) long

**Fuel Oils**

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Applications

Features and Benefits

- Excellent filtration performance in a single pass
- Low pressure loss due to innovative element technology
- Easy to service thanks to intelligent element design
- Easy to adapt to filter housings for the removal of the fine particles in diesel
- The Low Viscosity-Housing Filter LVH-F is mainly used to filter low-viscosity fluids. It is especially suitable for applications with large amounts of dirt that need to be removed in just a single pass
- The Optimicron® filter elements used here ensure that both the required cleanliness and a long service life are achieved.
- Available in various sizes, the filters can be optimally integrated into new or existing systems.
- The filters are designed according to ASME Code Section VIII rules and regulations for pressure vessels as well as the ability to certify to other global standards upon request.

Markets

Model no. of filter in photograph is: LVHF340NBRFZ
**High Flow | Low Viscosity Housing Filter**

**Filter Housing Specifications**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Rate</td>
<td>211-951 gpm (799-3600 L/min)</td>
</tr>
<tr>
<td>Inlet/Outlet Connection</td>
<td>ANSI 150#: 2”-12”</td>
</tr>
<tr>
<td></td>
<td>DIN: DN50-DN300</td>
</tr>
<tr>
<td>Max. Operating Pressure</td>
<td>150 psi (10 bar)</td>
</tr>
<tr>
<td>Max. Ambient Temperature</td>
<td>122°F (50°C)</td>
</tr>
<tr>
<td>Max. Operating Temperature</td>
<td>158°F (70°C)</td>
</tr>
<tr>
<td>Material Housing</td>
<td>Stainless Steel or Carbon Steel</td>
</tr>
</tbody>
</table>

**Dimensions LVH-F1**

**Dimensions LVH-F8**

*Element Demount*

**View A**

Metric dimensions in ( ).

Dimensions shown are inches (millimeters) for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.
The lower curve applies to diesel at 20°C (the upper curve is for mineral oil with viscosity to 30 cSt for comparison).

**Filter Element Selection**

Filter elements must be ordered separately and installed before initial operation on-site.

**Filter Calculation**

<table>
<thead>
<tr>
<th>Filter Size (Model)</th>
<th>Maximum Flow Rate</th>
<th>Number of Filter Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVH-F-140</td>
<td>211 gpm</td>
<td>1 pc.</td>
</tr>
<tr>
<td>LVH-F-340</td>
<td>317 gpm</td>
<td>3 pcs.</td>
</tr>
<tr>
<td>LVH-F-440</td>
<td>476 gpm</td>
<td>3 pcs.</td>
</tr>
<tr>
<td>LVH-F-40</td>
<td>632 gpm</td>
<td>4 pcs.</td>
</tr>
<tr>
<td>LVH-F-840</td>
<td>951 gpm</td>
<td>5 pcs.</td>
</tr>
<tr>
<td>LVH-F-800</td>
<td></td>
<td>8 pcs.</td>
</tr>
</tbody>
</table>

**Element**

<table>
<thead>
<tr>
<th>Element</th>
<th>Designation</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter Element 40&quot;</td>
<td>N42ON-DF003-FA40F</td>
<td>3965085</td>
</tr>
<tr>
<td></td>
<td>N42ON-DF005-FA40F</td>
<td>3916691</td>
</tr>
<tr>
<td></td>
<td>N42ON-DF010-FA40F</td>
<td>4055947</td>
</tr>
</tbody>
</table>

* Contact Factory for More Details
### How to Build a Valid Model Number for a Schroeder LVH-F Supplied with Element:

<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>
<th>BOX 10</th>
<th>BOX 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>3</td>
<td>40</td>
<td>E</td>
<td>V</td>
<td>C</td>
<td>V</td>
<td>F</td>
<td>D12</td>
<td>ZA</td>
<td></td>
</tr>
</tbody>
</table>

Example: Note:

<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>
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<th>BOX 10</th>
<th>BOX 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVH</td>
<td>F</td>
<td>3</td>
<td>40</td>
<td>E</td>
<td>V</td>
<td>C</td>
<td>V</td>
<td>F</td>
<td>D12</td>
<td>ZA</td>
</tr>
</tbody>
</table>

- **Filter Series**: LVH
- **Functions**: F = Filter
- **Filter Size**:
  - 1 = 1 filter element
  - 3 = 3 filter elements
  - 4 = 4 filter elements
  - 5 = 5 filter elements
  - 8 = 8 filter elements
- **Filter Element Length**: 40 = 40”
- **Housing Material**:
  - E = Stainless Steel
  - N = Carbon Steel

### Fluid Compatibility

**Fuel Oils**
- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil

**Clogging Indicator**
- C12 = Differential pressure indicator, electrical
- D17 = Differential pressure indicator, visual/electrical (230V)
- D18 = Differential pressure indicator, visual/electrical (240V)
- D32 = Differential pressure indicator, visual/electrical (PVL2GW.0/V-113)
- D33 = Differential pressure indicator, visual/electrical (PVL2GW.0/111-16)
- Z = Without clogging indicator

**Available Certification**
- ZA = ASME Certification

**Hydraulic Connection**
- A2 = 2” ANSI 150# SORF
- A3 = 3” ANSI 150# SORF
- A4 = 4” ANSI 150# SORF
- A6 = 6” ANSI 150# SORF
- AB = 8” ANSI 150# SORF
- L = DIN DN 50
- R = DIN DN 100
- V = DIN DN 150
- W = DIN DN 200
- Y = DIN DN 300

**Mounting**
- V = Vertical
- H = Horizontal

**Pressure Range**
- B = 150 psi (10 bar)
- C = 232 psi (16 bar)

**Sealing**
- F = Viton®

For flanges not listed, contact factory.
Applications

■ Excellent filtration performance in a single pass
■ Low pressure loss due to innovative element technology
■ Easy to service thanks to intelligent element design
■ The Low Viscosity-Housing Coalescer LVH-C is mainly used for dewatering of diesel, making it especially suitable for applications with large amounts of water that need to be removed in just a single pass
■ The Optimicron® filter elements used ensure that both the required cleanliness and long service life are achieved.
■ Available in various sizes, the filters can be optimally integrated into new or existing systems.
■ The filters are designed according to the ASME Code Section VIII rules and regulations for pressure vessels as well as the ability to certify to other global standards upon request.

Features and Benefits

LVHC

Model no. of filter in photograph is: LVHC440NVBFZ

211-476 gpm
799-1802 L/min
150 psi
10 bar
Standard

Markets

INDUSTRIAL
BULK FUEL FILTRATION
MARINE
MINING TECHNOLOGY
AGRICULTURE
POWER GENERATION
# LVHC High Flow | Low Viscosity Housing Coalescer

## Filter Housing Specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating</strong></td>
<td>211-476 gpm (799-1802 L/min)</td>
</tr>
<tr>
<td><strong>Inlet/Outlet Connection</strong></td>
<td>ANSI 150#: 2”-12” DIN: DN50-DN300</td>
</tr>
<tr>
<td><strong>Max. Operating Pressure</strong></td>
<td>150 psi (10 bar)</td>
</tr>
<tr>
<td><strong>Max. Ambient Temperature</strong></td>
<td>122°F (50°C)</td>
</tr>
<tr>
<td><strong>Max. Operating Temperature</strong></td>
<td>122°F (50°C)</td>
</tr>
<tr>
<td><strong>Material Housing</strong></td>
<td>Stainless Steel or Carbon Steel</td>
</tr>
</tbody>
</table>

## Dimensions LVH-C-D-4-40

- **Flow Rate:** 211-476 gpm (799-1802 L/min)
- **Inlet/Outlet Connection:** ANSI 150#: 2”-12”
- **DIN:** DN50-DN300
- **Max. Operating Pressure:** 150 psi (10 bar)
- **Max. Ambient Temperature:** 122°F (50°C)
- **Max. Operating Temperature:** 122°F (50°C)
- **Material Housing:** Stainless Steel or Carbon Steel

## Dimensions LVH-C-D-6-40

- **Flow Rate:** 211-476 gpm (799-1802 L/min)
- **Inlet/Outlet Connection:** ANSI 150#: 2”-12”
- **DIN:** DN50-DN300
- **Max. Operating Pressure:** 150 psi (10 bar)
- **Max. Ambient Temperature:** 122°F (50°C)
- **Max. Operating Temperature:** 122°F (50°C)
- **Material Housing:** Stainless Steel or Carbon Steel

**Note:** Metric dimensions in ( ). Dimensions shown are inches (millimeters) for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.
Filter Size (Model) | Maximum Flow Rate | Number of Coalescing Elements | Number of Separator Elements
---|---|---|---
LVH-CD-4 40 | 211 gpm | 4 pcs. | 3 pcs.
LVH-CD-6 40 | 317 gpm | 6 pcs. | 4 pcs.
LVH-CD-9 40 | 476 gpm | 9 pcs. | 6 pcs.

Element | Model Code | Part No.
---|---|---
Separation Element 30" | N32ON-DSZ-SA80F | 3910259
Coalescing Element 40" | N42ON-DCZ-CA60F | 3910257

Filter elements must be ordered separately and installed before initial operation on-site.
### How to Build a Valid Model Number for a Schroeder LVH-C Supplied with Element:

<table>
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<td>B</td>
<td>V</td>
<td>F</td>
<td>D32</td>
<td>ZA</td>
</tr>
</tbody>
</table>

**Example:**

```
LVH - CD - 4 - 40 - E - V - B - V - F - D32 - ZA = LVHCD440EVBVD32ZA
```

**Filter Series**
- LVH

**Functions**
- CD = Coalescing, Diesel Fuel

**Filter Size & Number of Elements per Housing**
- 4 = 4 coalescing & 3 separator elements
- 6 = 6 coalescing & 4 separator elements
- 9 = 9 coalescing & 6 separator elements

**Filter Element Length**
- 40 = 40"

**Housing Material**
- E = Stainless Steel
- N = Carbon Steel

**Mounting**
- V = Vertical

**Pressure Range**
- B = 150 psi (10 bar)

**Hydraulic Connection**
- A2 = 2” ANSI 150# SORF
- A3 = 3” ANSI 150# SORF
- A4 = 4” ANSI 150# SORF
- A6 = 6” ANSI 150# SORF
- A8 = 8” ANSI 150# SORF
- L = DIN DN 50
- T = DIN DN 100
- V = DIN DN 150
- W = DIN DN 200
- Y = DIN DN 300

**Sealing**
- F = Viton®

**Clogging Indicator**
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  - ULSD15, low sulfur diesel and high sulfur diesel
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