Section 2: Bulk Diesel Mobile Filtration Units
Bulk Diesel Mobile Filtration Units

Mobile units provide a fuel filtration solution that address the particulate contamination and water removal in an easy to use package. Because of its mobility, it can be deployed in remote sites or moved between different bulk diesel storage tanks on a facility site.

Bulk Diesel Tanks where contaminated diesel fuel is left in a tank, can jeopardize all of the effort that were put in cleaning the fuel prior to filling up the tank. Over time, fuel in bulk diesel storage tanks can ingress particulate and water contamination from the environment.

Water, over time, results in organic growth such as bacteria and/or fungus. Bacteria or fungus can cause effects similar to free water on fuel systems. This includes rust, corrosion or emissions problems. The effects can be accelerated as the fuel ages and the level of acidity and oxidation can be shown with the Total Acid Number TAN (mg KOH/g) Acid Number. These contaminants may also coat the water in fuel sensors in a system and prevent the proper detection of water.

Natural Gas Drilling Site Example

A bulk diesel fuel storage tank on a remote Natural Gas Drilling site, used to fuel the generator was found with heavy sludge buildup. The sludge and dirt caused loss of production (generator not running) and damage to diesel engine components totaling over $100,000 in lost production in one hour.

Due to the severe contamination, the fuel was pumped into another, clean tank by the BDC bulk diesel filter cart and cleaned in a single pass. With this single pass. Particulate and free water were removed in one step. The first stage Bag Filter on the BDC was ideal for the gross removal of microbial bloom/growth, rust and large particulates from the fuel. With the addition of a bag housing, the BDC can handle the high dirt loads often found in on-site service tanks.

After the original tank was emptied, the sludge at the bottom of the tank (pictured)was removed and the tank was thoroughly cleaned to have it ready for the next delivery of fuel. To maintain a clean tank and clean fuel, the BDC is ideal as a kidney loop system that polishes the fuel on a regular basis or can be permanently installed.

Fuel Contamination types:

<table>
<thead>
<tr>
<th>Contamination Type</th>
<th>Sources</th>
<th>Effects</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulates:</td>
<td>Contaminated fuel delivery</td>
<td>Wear and tear of diesel engine components</td>
<td>Fuel Filtration</td>
</tr>
<tr>
<td></td>
<td>Missing tank breather</td>
<td>Premature failure</td>
<td>Periodic tank cleaning/fuel polishing</td>
</tr>
<tr>
<td></td>
<td>Tank corrosion</td>
<td></td>
<td>Add desiccant breathers</td>
</tr>
<tr>
<td></td>
<td>Dirt left from tank installation</td>
<td></td>
<td>Filtration at each stage of fuel movement</td>
</tr>
<tr>
<td>Water:</td>
<td>Contaminated fuel delivery</td>
<td>Engine combustion and/or injector problems</td>
<td>Fuel Filtration</td>
</tr>
<tr>
<td></td>
<td>Condensation</td>
<td>Corrosion</td>
<td>Close any openings on tank</td>
</tr>
<tr>
<td></td>
<td>Leaks and outside influences</td>
<td>Clogged/saturated filters</td>
<td>Periodic tank cleaning/fuel polishing</td>
</tr>
<tr>
<td>Organic Growth:</td>
<td>Generated by presents of water and air</td>
<td>Clogs filters, engine parts</td>
<td>Periodic tank cleaning/fuel polishing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased TAN number (corrosive effect)</td>
<td>Prevent water from entering tank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Use desiccant breathers</td>
</tr>
</tbody>
</table>
### Applications

#### Application Introduction:
The BDFC is ideal for those wanting to maintain clean fuel in their bulk storage tanks. The new BDFC provides exceptional particulate filtration and continuous water removal with higher flow rates. The GHPF particulate pre-filter and GHCF coalescing water removal filters feature Schroeder Industries’ GeoSeal® patented aftermarket solution, ensuring quality replacement elements are used with every element change. These elements use the fully synthetic Excellement Z-Media® and revolutionary coalescing media to fully protect vital diesel engine components from debris and water.

#### Features and Benefits
- Designed with integrated particulate removal pre-filtration for maximum coalescing filter element life in the downstream housing
- Routine element change only needed on GHPF particulate filter, keeping operating costs low
- Patented GeoSeal® elements designed to provide consistent quality with the highest single-pass water and particulate removal efficiencies in today’s ultra-low sulfur diesel (ULSD) fuels
- All-aluminum filter housings and plumbing components are fully compatible with diesel and biodiesel
- Sight glass, Y-strainer, and upstream/downstream test points included
- 10’ clear suction hose and rubber discharge hose with cam-and-groove connections and 3’ wands
- At just under 28’ wide, this cart will fit through standard doorways
- Electric motor includes 120VAC with resettable overload and 7’ power cord
- Latching, resettable pressure indicators trip at 5 psi before bypass valve cracking, providing early warning to the operator of when to change the filter element

### Markets

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

---

SCHROEDER INDUSTRIES | FUEL FILTRATION 77
### Bulk Diesel Filter Cart

**Filter Housing Specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Particulate Filter</th>
<th>Coalescing Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 25 gpm (95 L/min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid Temperature Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32°F to 225°F (0°C to 107°C)</td>
<td>Particulate: 35 psi (2.4 bar)</td>
<td>Coalescing: 35 psi (2.4 bar)</td>
</tr>
<tr>
<td>Ambient Environment Temperature Range</td>
<td>Particulate: 40 psi (2.8 bar)</td>
<td>Coalescing: 40 psi (2.8 bar)</td>
</tr>
<tr>
<td>Bypass Indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particulate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coalescing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bypass Valve Cracking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Particulate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coalescing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials of Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td>Cast Aluminum, Anodized</td>
<td>Cast Aluminum, Anodized</td>
</tr>
<tr>
<td>Element Case</td>
<td>Aluminum, Anodized</td>
<td>Aluminum, Anodized</td>
</tr>
<tr>
<td>Sump</td>
<td>Cast Aluminum, Anodized</td>
<td>Anodized</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>131 lbs. (59.4 kg)</td>
<td></td>
</tr>
<tr>
<td>Standard Operating Frequency &amp; Phase</td>
<td>60 Hz, Single Phase</td>
<td></td>
</tr>
<tr>
<td>Full Load Amperage</td>
<td>13.4 A @ 115 VAC</td>
<td></td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>7.2-6.7 A @ 208-230 VAC</td>
<td></td>
</tr>
<tr>
<td>Service Factor Amperage</td>
<td>8.1-7.6 A @ 208-230 VAC</td>
<td></td>
</tr>
<tr>
<td>Operating Voltage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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.
### Bulk Diesel Filter Cart

#### Particulate Performance Information

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>$\beta_1$ (c) ≥ 200</th>
<th>$\beta_{10}$ (c) ≥ 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>11GGZ1V</td>
<td>172 grams</td>
<td>&lt;4.0</td>
<td>4.5</td>
</tr>
<tr>
<td>11GGZ3V</td>
<td>148 grams</td>
<td>4.6</td>
<td>5.8</td>
</tr>
<tr>
<td>11GGZ5V</td>
<td>174 grams</td>
<td>5.9</td>
<td>7.8</td>
</tr>
<tr>
<td>11GGZ10V</td>
<td>165 grams</td>
<td>11.4</td>
<td>13.2</td>
</tr>
<tr>
<td>11GGZ25V</td>
<td>164 grams</td>
<td>15.8</td>
<td>17.5</td>
</tr>
</tbody>
</table>

#### Coalescing Element

<table>
<thead>
<tr>
<th>Coalescing Element</th>
<th>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td>C125GZ5V</td>
<td>Max Flow: 25 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: 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

---

**Notes**

- 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

---

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171
How to Build a Valid Model Number for a Schroeder BDFC Supplied with Elements:

<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>BDF</td>
<td>C</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>BDF</td>
<td>11GGZ3</td>
<td>CG5</td>
<td>V</td>
<td>D5</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

= BDF11GGZ3CG5VD525

Filter Series
- BDF

Configuration
- C = Filter Cart

Particulate Filtration
- 11GGZ1 = 1 µm
- 11GGZ3 = 3 µm

Dirt Alarm®
- D5 = Visual Pop-Up; Manual Reset

Seal Material
- V = Viton®

Options
- Omit = Included Sight Glass, Y-Strainer & Upstream / Downstream Test Points
- I = Water-In-Fuel (WIF) Sensor w/ Indicator Light

Pump Sizing and Configuration
- 14 = 14 gpm 120VAC 60 Hz Single-Phase
- 25 = 25 gpm 120VAC 60 Hz Single-Phase

NOTES:
- For 50Hz applications, contact factory
- Box 5. Viton® is a registered trademark of DuPont Dow Elastomers
- Box 7. “I” option is only available with electric motor configurations

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

Coalescing Element
- C125GZ5V
- Max Flow: 25 gpm
- Single Pass Water Removal Efficiency: ≥ 95%

Particulate Elements

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

Note:
- Based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500) 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
Bulk Diesel Filtration Panel

Application Introduction:
A simple turn-key stationary fuel filtration system

The BDFP provides a simple turn-key stationary fuel filtration system for exceptional fuel transfer, polishing, and dispensing applications. Both filters combine Schroeder’s fully synthetic Z-Media® in a particulate pre-filter, the GHPF, with our patent-pending coalescing water removal filter, the GHCF, to fully protect vital diesel engine components from dirt and water. The BDFP provides premium filtration in a simple system which can easily be integrated into new and existing fuel storage systems.

Features and Benefits
- Turn-key coalescing and filtration system, for use as a fuel transfer, polishing, and dispensing solution
- Incorporates high-efficiency particulate and water removal filtration into a stationary mounted system with pump
- Available with either electrical or air operated pump options for more system flexibility
- GHPF and GHCF filter housings use patented GeoSeal® elements
- All-aluminum filter housings are fully compatible with diesel and biodiesel
- Minimal clearance needed for element service, ideal for enclosure installations
- Routine element change only needed on GHPF particulate filter, reducing operating cost
- Patent-pending, three-phase particulate, coalescing 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 the fuel storage tanks to the equipment
- Allows users to achieve or exceed the particulate and water removal specifications of the injection system OEMs

Model no. of filter in photograph is: BDFP11GZ9SCHVSD14

Applications

Markets
### Filter Housing Specifications

<table>
<thead>
<tr>
<th>Flow Rating:</th>
<th>Electric Motor Option: 14 gpm or 25 gpm (53 or 95 L/min)</th>
<th>Air Operated Option: 16 or 25 gpm (53 or 95 L/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient Temperature Range:</td>
<td>32°F to 104°F (0°C to 40°C) Standard; -20°F to 140°F (-29°C to 40°C) Heater Option</td>
<td></td>
</tr>
<tr>
<td>Bypass Indication:</td>
<td><strong>Particulate Filter</strong></td>
<td><strong>Coalescing Filter</strong></td>
</tr>
<tr>
<td>Electric Motor:</td>
<td>35 psi (2.4 bar)</td>
<td>35 psi (2.4 bar)</td>
</tr>
<tr>
<td>Air Operated:</td>
<td>25 psi (1.7 bar)</td>
<td>15 psi (1.0 bar)</td>
</tr>
<tr>
<td>Bypass Valve Cracking:</td>
<td><strong>Particulate Filter</strong></td>
<td><strong>Coalescing Filter</strong></td>
</tr>
<tr>
<td>Electric Motor:</td>
<td>40 psi (2.8 bar)</td>
<td>40 psi (2.8 bar)</td>
</tr>
<tr>
<td>Air Operated:</td>
<td>30 psi (2.1 bar)</td>
<td>20 psi (1.4 bar)</td>
</tr>
<tr>
<td>Materials of Construction:</td>
<td><strong>Particulate Filter</strong></td>
<td><strong>Coalescing Filter</strong></td>
</tr>
<tr>
<td>Porting Head:</td>
<td>Cast Aluminum, Anodized</td>
<td>Cast Aluminum, Anodized</td>
</tr>
<tr>
<td>Element Bowl:</td>
<td>Aluminum, Anodized</td>
<td>Aluminum, Anodized</td>
</tr>
<tr>
<td>Weight:</td>
<td>130 - 150 lbs. (59 - 68 kg)</td>
<td></td>
</tr>
<tr>
<td>Element* Change Clearance:</td>
<td>GHPF: 2” (51 mm)</td>
<td>GHCF: 4” (102 mm)</td>
</tr>
<tr>
<td>Operating Frequency:</td>
<td>60 Hz</td>
<td></td>
</tr>
<tr>
<td>Operating Phase:</td>
<td>Single</td>
<td></td>
</tr>
</tbody>
</table>

#### Electric Motor Option

- **Flow Rating:**
  - Electric Motor: 14 gpm (53 L/min)
  - Air Operated: 16 gpm (53 L/min)

- **Ambient Temperature Range:**
  - 32°F to 104°F (0°C to 40°C) Standard
  - -20°F to 140°F (-29°C to 40°C) Heater Option

- **Bypass Indication:**
  - **Particulate Filter**
    - Electric Motor: 35 psi (2.4 bar)
    - Air Operated: 25 psi (1.7 bar)
  - **Coalescing Filter**
    - Electric Motor: 35 psi (2.4 bar)
    - Air Operated: 15 psi (1.0 bar)

- **Bypass Valve Cracking:**
  - **Particulate Filter**
    - Electric Motor: 40 psi (2.8 bar)
    - Air Operated: 30 psi (2.1 bar)
  - **Coalescing Filter**
    - Electric Motor: 40 psi (2.8 bar)
    - Air Operated: 20 psi (1.4 bar)

- **Materials of Construction:**
  - **Particulate Filter**
    - Porting Head: Cast Aluminum, Anodized
    - Element Bowl: Aluminum, Anodized
  - **Coalescing Filter**
    - Porting Head: Cast Aluminum, Anodized
    - Element Bowl: Aluminum, Anodized

- **Weight:**
  - 130 - 150 lbs. (59 - 68 kg)

- **Element* Change Clearance:**
  - GHPF: 2” (51 mm)
  - GHCF: 4” (102 mm)

- **Operating Frequency:**
  - 60 Hz

- **Operating Phase:**
  - Single

- **Full Load Amperage:**
  - Electric Motor: 13.4 A @ 115 VAC
  - Air Operated: 7.2-6.7 A @ 208-230 VAC

- **Service Factor Amperage:**
  - Electric Motor: 15.2 A @ 115 VAC
  - Air Operated: 8.1-7.6 A @ 208-230 VAC

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*Elements sold with the filter system

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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 Filtration Panel

### Particulate Elements

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC(g)</th>
<th>$\beta_x(e) \geq 200$</th>
<th>$\beta_x(e) \geq 1000$</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>Pressure Side Coalescing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max Flow</td>
</tr>
<tr>
<td>C125GZ5V</td>
<td>25 gpm</td>
</tr>
</tbody>
</table>

### Notes

- 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

---

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

**Particulate Elements DHC(g)**

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC(g)</th>
<th>$\beta_x(e) \geq 200$</th>
<th>$\beta_x(e) \geq 1000$</th>
</tr>
</thead>
<tbody>
<tr>
<td>11GGZ1V</td>
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<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>

**Particulate and Coalescing Elements Sold with System**

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

**Element Performance Information**

- Particulate Elements
  - DHC(g)
  - $\beta_x(e) \geq 200$
  - $\beta_x(e) \geq 1000$

**Particulate and Coalescing Elements Sold with System**

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

**Notes**

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

**Highlighted product eligible for QuickDelivery**
Bulk Diesel Filtration Panel

How to Build a Valid Model Number for a Schroeder BDFP Supplied with Elements:

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>BDF</td>
<td>P</td>
<td>11GGZ3</td>
<td>CG5</td>
<td>V</td>
<td>D5</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

= BDFP11GGZ3CG5VD514

**Filtration Model Number Selection**

**Element Part Number Selection**

**Fluid Compatibility**

**Particulate Elements**

<table>
<thead>
<tr>
<th>DHC(g)</th>
<th>( \beta_1 (c) \geq 200 )</th>
<th>( \beta_1 (c) \geq 1000 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>11GGZ1V</td>
<td>172</td>
<td>&lt;4.0</td>
</tr>
<tr>
<td>11GGZ3V</td>
<td>148</td>
<td>&lt;4.0</td>
</tr>
</tbody>
</table>

**Coalescing Element**

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

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

**Particulate Element**

- Flow Direction: Outside In
- Element Nominal Dimensions: 5.0\" (127 mm) O.D. x 11\" (279 mm) long

**Coalescing Element**

- Flow Direction: Inside Out
- Element Nominal Dimensions: 5.0\" (127 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

**Seal Material**

- V = Viton®

**Dirt Alarm**

- D5 = Visual Pop-up, Manual Reset

**Options**

- Omit = Sight Glass (standard)
- U = Downstream Test Point
- T = Water-In-Fuel (WIF) sensor only
- I = WIF sensor w/ remote mount light indicator
- H = Coalescing sump heater
- SS = 5 gal. sump tank*
- S20 = 20 gal. sump tank*
- AWD5 = Auto. water drain w/ 5 gal. remote tank*
- AWD20 = Auto. water drain w/ 20 gal. remote tank*

**Notes:**

- Box 3, Viton® is a registered trademark of DuPont Dow Elastomers.
- Box 7, Only box that will allow a combination of options.
- Box 8, Only box that will allow a combination of options.
- *only to be used in applications above 32°F (0°C)

**Filtration Configuration**

- Particulate Filtration
  - 11GGZ1 = 1 µm
  - 11GGZ3 = 3 µm

- Coalescing Filtration
  - CG5 = C125GZ5V Coalescing Element

**Pump Sizing and Configuration**

- 14 = 14 gpm 120VAC 60Hz Single-Phase
- 25 = 25 gpm 120VAC 60Hz Single-Phase
- 16 = 16 gpm Air Driven Pump
- 25A = 25 gpm Air Driven Pump

**Filter Model Number Selection**

- BDFP11GGZ3CG5VD514

**Fuel Oil Compatibility**

- ULSD15, low sulfur diesel and high sulfur diesel
- Biodiesel blends
- Synthetic diesel and blends
- No. 2 fuel oil and heating oil
Model no. of filter in photograph is: BDC39QPML23AVM

Application Introduction:
The Reason for Better Bulk Fuel Filtration

The BDC provides exceptional single pass or kidney loop diesel particulate filtration and continuous water removal. All 3 filters combine Schroeder's fully synthetic media and patent-pending fuel water separation technology. The BDC is ideal for fuel maintenance operations.

Features and Benefits

- Great for kidney loop clean-up and single pass transfer of diesel fuel in larger storage tanks
- Incorporates a bag element pre-filter, available from 1 to 200 micron, for gross removal of microbial bloom contamination and rust
- Fuel and water separation media technology in a three-phase element construction for high efficiency, single-pass removal of emulsified and free-water in Ultra-low Sulfur Diesel (ULSD) and biodiesel fuels
- Designed because prior generation coalescing methods no longer provide high-efficiency separation in ULSD and biodiesel
- Real time fuel condition monitoring can be achieved while using the supplied test points and one of our contamination sensing products
- Pump motor is 115VAC with re-settable overload and 7' power cord for 25 gpm models and available as 220V Single Phase, 230V Three Phase, or 460V Three Phase for 70 gpm models
- Helps protect expensive, vital engine components against failures caused by contaminated fuel

Markets

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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flow Rating:</strong></td>
<td>Up to 25 gpm (95 L/min) or 70 gpm (265 L/min) for ULSD15 &amp; biodiesel blends</td>
</tr>
</tbody>
</table>
| **Temperature Range:**        | 32°F to 150°F (0°C to 66°C) standard and with AWD option  
-20°F to 150°F (-29°C to 66°C) with heater option |
| **Bypass Indication:**        | Particulate Filter  
Particulate: 15 psi (1.03 bar)  
Coalescing Filter: 25 psi (1.7 bar) |
| **Bypass Valve Cracking:**    | Particulate Filter  
Particulate: 20 psi (1.37 bar)  
Coalescing Filter: 30 psi (2 bar) |
| **Materials of Construction:**| Porting Base: Anodized Aluminum  
Cap: Plated Steel  
Bag Housing: 304 Stainless Steel  
Particulate Filter Housing: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)  
Coalescing Filter Housing: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard) |
| **Weight:**                   | 25 gpm model - 785 lbs. (356 kg), 70 gpm model - contact factory |
| **Element Change Clearance:** | 33.8” (858 mm) |
| **Operating Frequency:**      | 60 Hz |
| **Operating Phase:**          | Single |
| **Full Load Amperage @ Operating Voltage:** | 13.4 A @ 115 VAC  
7.2-6.7 A @ 208-230 VAC |
| **Service Factor Amperage @ Operating Voltage:** | 15.2 A @ 115 VAC  
8.1-7.6 A @ 208-230 VAC |

*For 25 gpm models only.
For electrical on 70 gpm models, Contact Factory.

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 Cart

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

<table>
<thead>
<tr>
<th>Particulate Elements</th>
<th>DHC</th>
<th>$\beta_p (c) \geq 200$</th>
<th>$\beta_p (c) \geq 1000$</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
- **Flow Direction:** Inside Out
- **Element Nominal Dimensions:** 6.4" (163 mm) O.D. x 39.4" (1001 mm) long

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

#### Particulate Element
- **Flow Direction:** Outside In
- **Element Nominal Dimensions:** 6.0" (150 mm) O.D. x 37.8" (960 mm) long

#### Optional Replacement Elements

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Micron Rating</th>
<th>Elements Per Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>C396Z5V</td>
<td>Coalescing Element</td>
<td>5 µm</td>
<td>1</td>
</tr>
<tr>
<td>39QPMLZ1V</td>
<td>Particulate Element</td>
<td>1 µm</td>
<td>1</td>
</tr>
<tr>
<td>39QPMLZ3V</td>
<td>Particulate Element</td>
<td>3 µm</td>
<td>1</td>
</tr>
<tr>
<td>PEF5P2PH</td>
<td>Bag Element</td>
<td>5 µm</td>
<td>50</td>
</tr>
<tr>
<td>PEF25P2PH</td>
<td>Bag Element</td>
<td>25 µm</td>
<td>50</td>
</tr>
<tr>
<td>PEF50P2PH</td>
<td>Bag Element</td>
<td>50 µm</td>
<td>50</td>
</tr>
<tr>
<td>PEF100P2PH</td>
<td>Bag Element</td>
<td>100 µm</td>
<td>50</td>
</tr>
</tbody>
</table>

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

<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>BDC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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Example: NOTE: One option per box

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<th>BOX 5</th>
<th>BOX 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDC</td>
<td>39QPMLZ3</td>
<td>V</td>
<td>A</td>
<td>VM</td>
<td>= BDC39QPMLZ3VAVM</td>
</tr>
</tbody>
</table>

**Filter Model Number Selection**

<table>
<thead>
<tr>
<th>Filter Series</th>
<th>Particulate Element Micron Rating</th>
<th>Housing Seal Material</th>
<th>Bag Element Micron Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDC</td>
<td>39QPMLZ1 = 1 µm</td>
<td>V = Viton®</td>
<td>A = 5 µm</td>
</tr>
<tr>
<td></td>
<td>39QPMLZ3 = 3 µm</td>
<td></td>
<td>B = 25 µm</td>
</tr>
</tbody>
</table>

**Dirt Alarm**

- VM = Visual pop-up w/ Manual Reset

**Options**

- Omit = None (standard)
- H = Sump Heater
- AW = Automatic Water Drain 5 gal Tank w/ Failsafe
- 70A = 70 gpm 230VAC Single Phase 60 Hz
- 70B = 70 gpm 230VAC Three Phase 60 Hz
- 70C = 70 gpm 460VAC Three Phase 60 Hz

**NOTES:**

- Optional AWD is for use only >32°F (0°C)
- For 50Hz applications, contact factory
- Box 3. Viton® is a registered trademark of DuPont Dow Elastomers

**Filtration Ratio per ISO 16889**

Using APC calibrated per ISO 11171

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**Coalescing Element**

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<tr>
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<td>70 gpm</td>
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**Note:**

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

**Coalescing Element**

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

**Particulate Element**

- Flow Direction: Outside In
- Element Nominal Dimensions: 6.0” (150 mm) O.D. x 37.8” (960 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