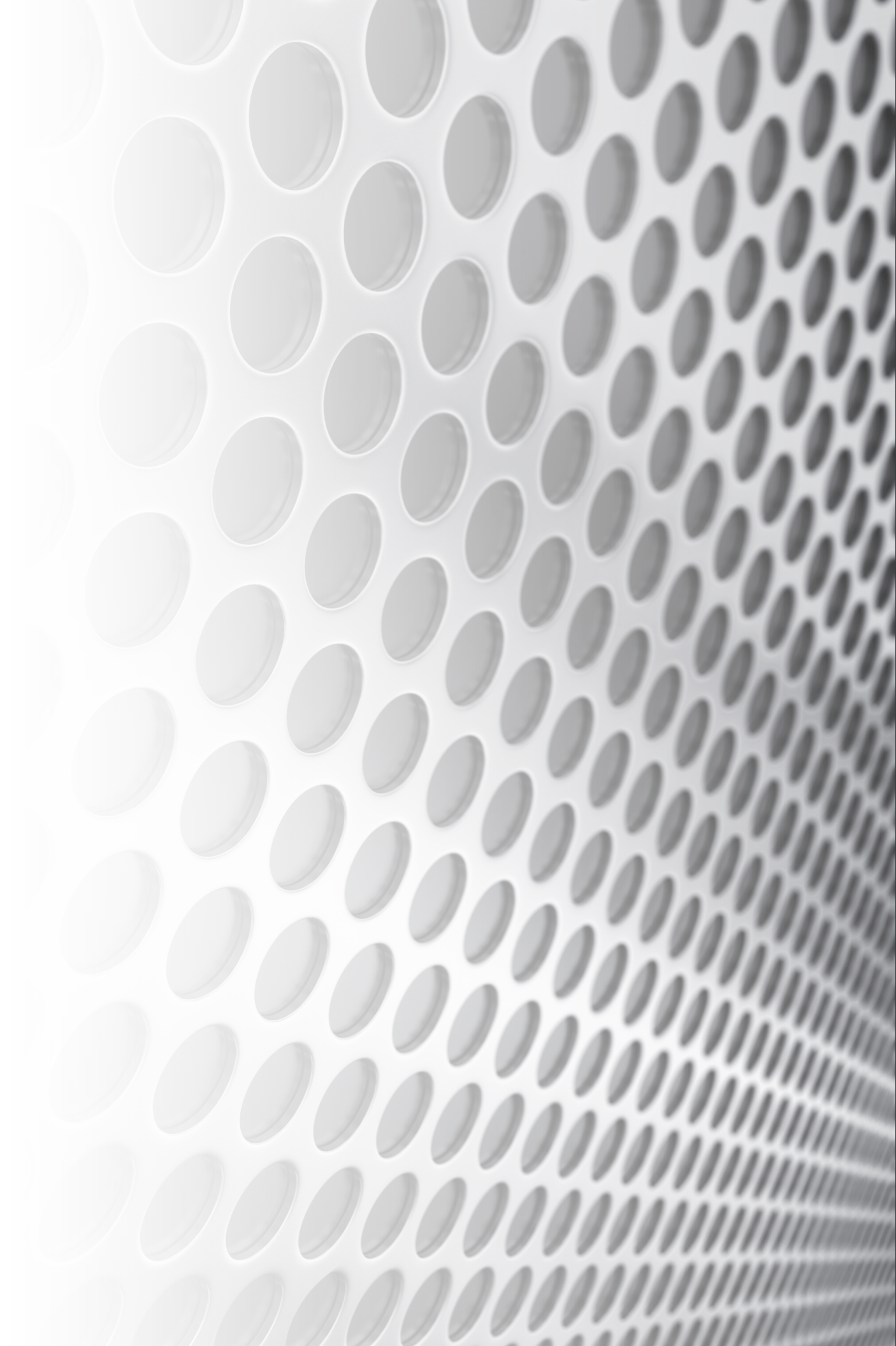


Section 1:

BULK DIESEL FILTRATION



16 gpm
60 L/min

150 psi
10 bar

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

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)



Model no. of filter in photograph
is: ICFV516LEP



Model no. of filter in photograph
is: ICFM

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



BULK FUEL
FILTRATION

In-Line Bulk Fuel Coalescing Filter

*Coalescing Elements Patent-Pending

ICF

Filter Housing Specifications

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

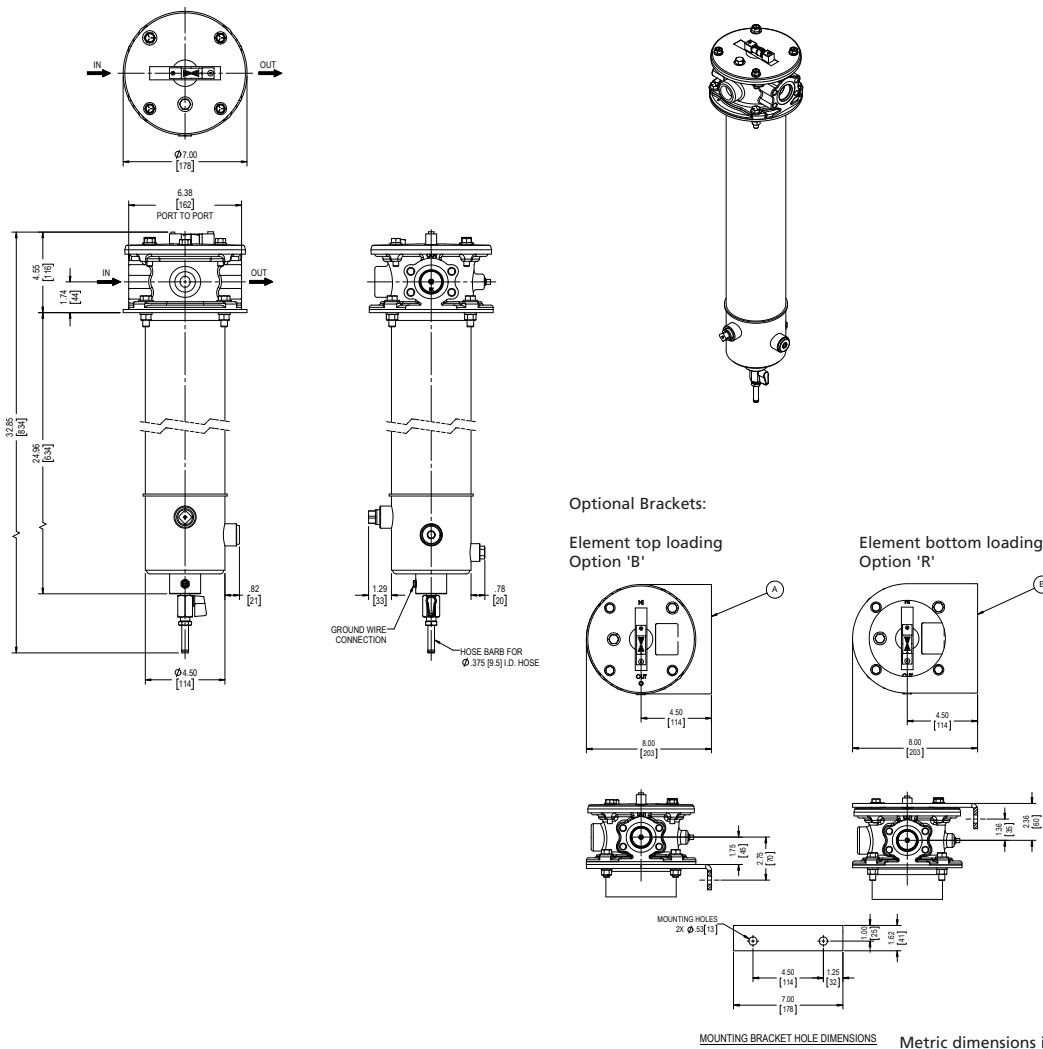
HDP

HDPD

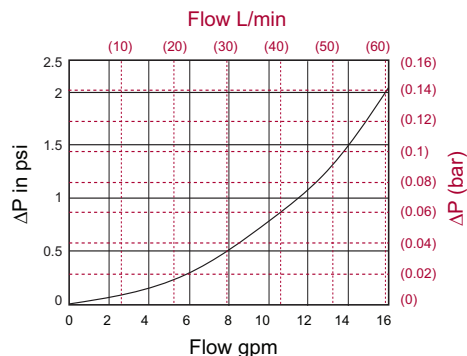
BCC

Flow Rating:	Up to 16 gpm (60 L/min) for ULSD15
Inlet/Outlet Connection:	1 1/2" NPTF Standard, -16 (ORB) SAE J1926 Optional
Max. Operating Pressure:	150 psi (10 bar)
Min. Yield Pressure:	450 psi (31 bar)
Rated Fatigue Pressure:	90 psi (6 bar), per NFPA T2.6.1-2005
Temp. Range:	32°F to 165°F (0°C to 74°C) standard and AWD option -20°F to 165°F (-29°C to 74°C) H option
Bypass Indication:	36 psi (2.5 bar) (Lower indication options available)
Bypass Valve Cracking:	40 psi (2.8 bar)
Porting Head/Cap:	Aluminum - Coating Option see Box 7
Element Bowl:	Steel - Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard)
Filter Housing Weight:	15 lbs (6.8 kg) - Base unit without options or element
Element Change Clearance:	Access from top (remove cap) - 18" (457.2 mm) Access from below (remove bowl) - 2.5" (63.5 mm)
Housing Sump:	32 oz. (0.95 L)
Optional:	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

Note: For other electrical options, contact factory
Element sold separately



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

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

sp gr = specific gravity

Notes

 $\Delta P_{\text{element}}$ $\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$ El. ΔP 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).

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise: Determine ΔP at 16 gpm (60 L/min) for ICFVP24LEP**Solution:**

$$\Delta P_{\text{housing}} = 2.05 \text{ psi} = [0.14 \text{ bar}]$$

$$\Delta P_{\text{coalescing element}} = 16 \times 0.2 = 3.2 \text{ psi} [0.22 \text{ bar}]$$

$$\Delta P_{\text{total}} = 2.05 + 3.2 = 5.25 \text{ psi} [0.36 \text{ bar}]$$

**Filter
Element
Selection
Coalescing
Element
Performance
Information
Elements Sold
Separately**

Highlighted
product eligible for
QuickDelivery

Coalescing Element	Pressure Side Coalescing	
	Recommended Flow	Single Pass Water Removal Efficiency
C184Z5V	16 gpm	≥ 99.5%
C184Z3V	16 gpm	≥ 99.5%
C184Z7VE	16 gpm	Contact Factory for Element Data

Flow Direction: Inside Out

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

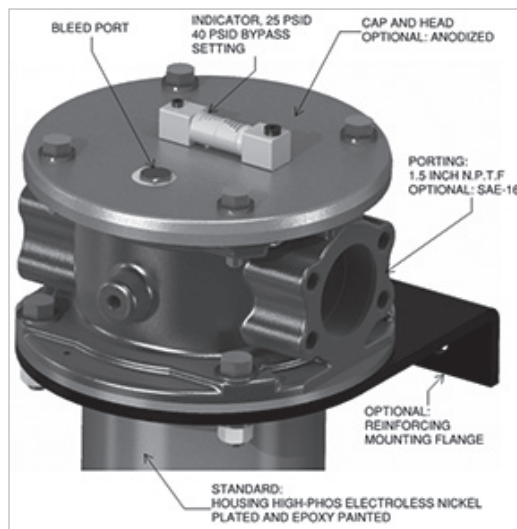
*Schroeder Anti-Static Pleat Media (ASP®) is standard

*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.

In-Line Fuel Coalescing Filter

*Coalescing Elements Patent-Pending

ICF



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/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



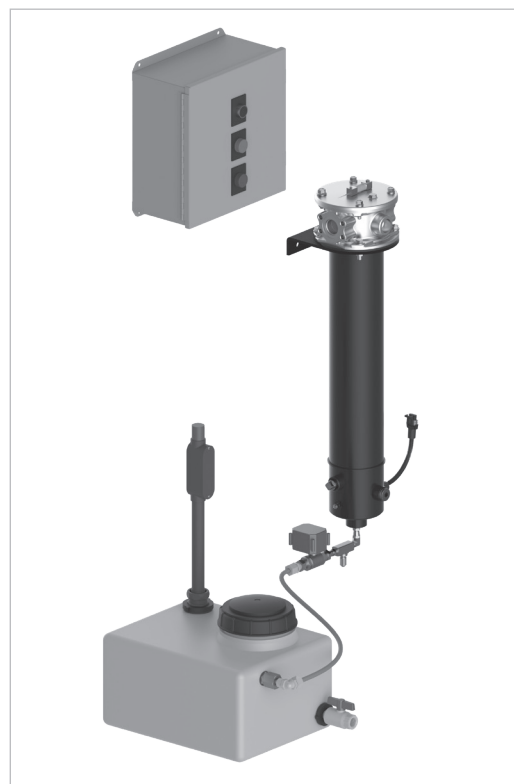
NOTES: Filter Sump Heater Control Panel dimension:
 6.5" W x 5.5" H x 6.5" D
 (165 W x 140 H x 165 D)
 Automatic Water Drain Control Panel dimension:
 10" W x 8" H x 12" D
 (254 W x 203.20 H x 304.80 D)
 *For use above 32°F (0°C) only
 Electrical cable length (Control Panel to ICF): 4 ft.
 (1.22m)
 Hose 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 ().



ICF Options

Filter Cap Assembly

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

Available Options

BDS4

LVH-F

LVH-C

BDFC

BDFP

Panel & Control for Automatic Drain with Safety Features

BDC

HDP

HDPD

BCC

Shown w/
Automatic
Sump
(Manual
Remote Sump
is Optional
but tank is
the same)

*Coalescing Elements Patent-Pending

Filter
Model
Number
SelectionHighlighted
product eligible for
QuickDelivery

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
ICF									

Example: NOTE:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
ICF	V	P24	L	B	S-I	EP-A		AWD5	

= ICFVP24LBSIEPAWD5

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Sealing Material	Porting	Coalescing Element Change Indicator
ICF	V = Viton®	P24 = 1½" NPTF (standard) S16 = -16 (ORB) SAE J1926	L = In cap bar indicator

BOX 5	BOX 6	BOX 7
Mounting Option	Filter Housing Sump Level Indicator Option	Coating Option
B = Bracket (Element top loading) R = Bracket (Element bottom loading) Omit = None	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	EP = Epoxy paint and plating (standard) A = Anodized cap & head (optional)

BOX 8	BOX 9	BOX 10
Heating Option	Automatic Drain & Remote Sump Options	Optional Manual Drain Remote Sump
H = Filter Sump Heater Omit = None	AWD5 = 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	S5 = 5gal sump tank S20 = 20gal sump tank Omit = None

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 (AWD5 or AWD20)

Box 9. AWD fail safe is shown on page 25 (ICF)

Element Part Number	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C184Z5V	16 gpm	≥ 99.5%
C184Z3V	16 gpm	≥ 99.5%
C184Z7VE	16 gpm	Contact Factory for Element Data

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.

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

Fuel Oils

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

Element
Part Number
SelectionHighlighted
product eligible for
QuickDeliveryFluid
Compatibility

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



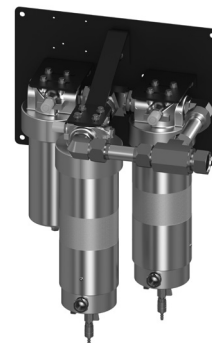
BULK TANK
KIDNEY LOOP /
RECIRCULATION

Features and Benefits

- 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



Model no. of filter in photograph
is: BDF111GGZ3CG5VD5



Model no. of filter in photograph
is: BDF211GGZ3CG5VD5

25-50 gpm ICF

95-189 L/min BDF

150 psi BDA

10 bar

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD

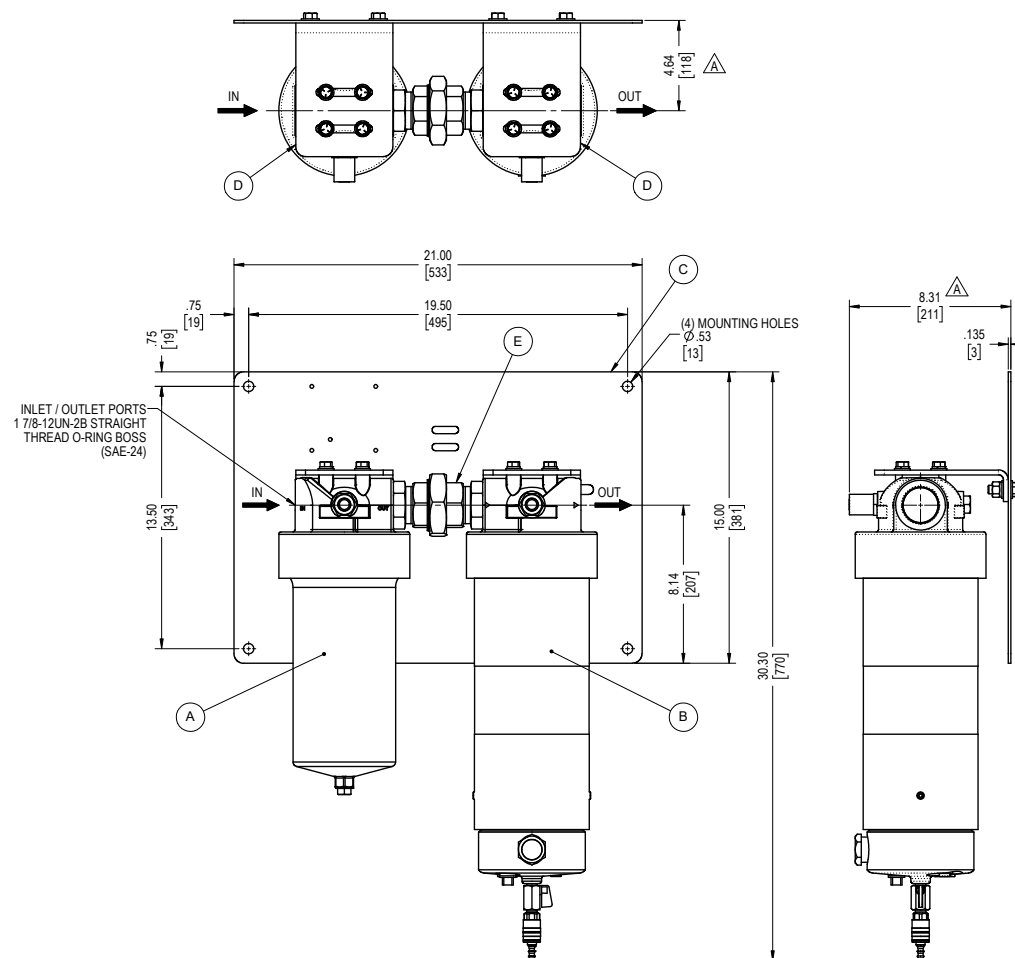


BULK FUEL
FILTRATION

Filter Housing Specifications

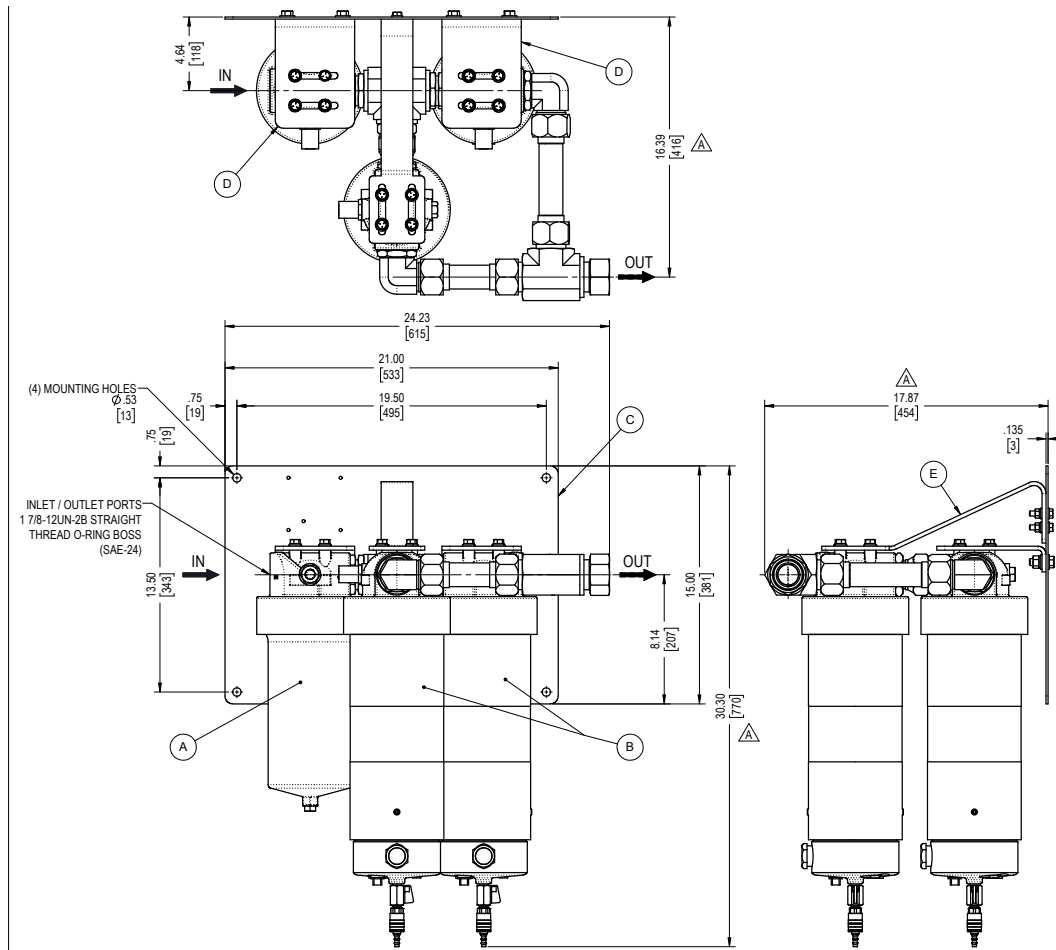
Flow Rating:	BDF1: up to 25 gpm (95 L/min) BDF2: up to 50 gpm (189 L/min)	
Inlet/Outlet Connection:	-24 (ORB) SAE J1926	
Max. Operating Pressure:	150 psi (10 bar)	
Temp. Range:	-20°F to 225°F (-29°C to 107°C) w/ optional water sump heater, 32°F to 225°F (0°C to 107°C) without heater, with standard features and AWD options	
Bypass Indication:	<u>Particulate Filter</u> 35 psi (2.4 bar)	<u>Coalescing Filter</u> 35 psi (2.4 bar)
Bypass Valve Cracking:	<u>Particulate Filter</u> 40 psi (2.8 bar)	<u>Coalescing Filter</u> 40 psi (2.8 bar)
Materials of Construction:	<u>Particulate & Coalescing Filter</u> Porting Head: Cast Aluminum, Anodized Element Case: Aluminum, Anodized	<u>Coalescing Filter Only</u> Sump: Cast Aluminum, Anodized
Weight:	BDF1: 46.5 lbs	BDF2: 89 lbs
Element Change Clearance:	<u>Particulate Filter</u> 2" (51 mm)	<u>Coalescing Filter</u> 4.5" (114 mm)
Opt. Water Sump Heater:	120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)	
Opt. Visual Electrical Indicator:	120VAC	

BDF1



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.



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

Particulate Elements	DHC(g)	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
11GGZ1V	172	<4.0	4.2
11GGZ3V	148	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C125GZ5V	25 gpm	$\geq 95\%$

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

BDF2

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

**Element
 Particulate
 Performance
 Information**

HDPD

BCC

**Element
 Water
 Coalescing
 Performance
 Information**
 Particulate and
 Coalescing
 Elements Sold
 with System

Highlighted
 product eligible for
QuickDelivery

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
BDF								

Example: NOTE:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9
BDF	1	11GGZ3		CG5		V	D5	

= BDF111GGZ3CG5VD5

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Flow Rate	Particulate Filtration	Particulate Bypass	Coalescing Filtration
BDF	1 = 25 gpm 2 = 50 gpm	11GGZ1 = 1 µm 11GGZ3 = 3 µm	Omit = 40 psi X = Blocked Bypass	CG5 = C125GZ5V Coalescing Element

BOX 6	BOX 7	BOX 8	BOX 9
Coalescing Bypass	Seal Material	Indicators	Options
Omit = 40 psi X = Blocked Bypass	V = Viton®	D5 = Visual Pop-up, Manual Reset	Omit = Included Sight Glass and Manual Water Drain Valves U = Downstream Test Point T = Water-In-Fuel (WIF) Sensor Only I = WIF Sensor w/ Remote Mount 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

Element Part Number Selection

Highlighted product eligible for **QuickDelivery**

Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171

Particulate Elements	DHC(g)	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
11GGZ1V	172	<4.0	4.2
11GGZ3V	148	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C125GZ5V	25 gpm	≥ 95%

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

Fuel Oils

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

Fluid Compatibility

In-Line Water Absorbing Diesel Fuel Bag Filter

BDA

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



BULK TANK
KIDNEY LOOP /
RECIRCULATION

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



Model no. of filter in photograph is:
BDA-H-2-V-P32

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



BULK FUEL
FILTRATION

35 or 70 gpm ICF**132 or 265** BDF**L/min****145 psi****10 bar****BDA**

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

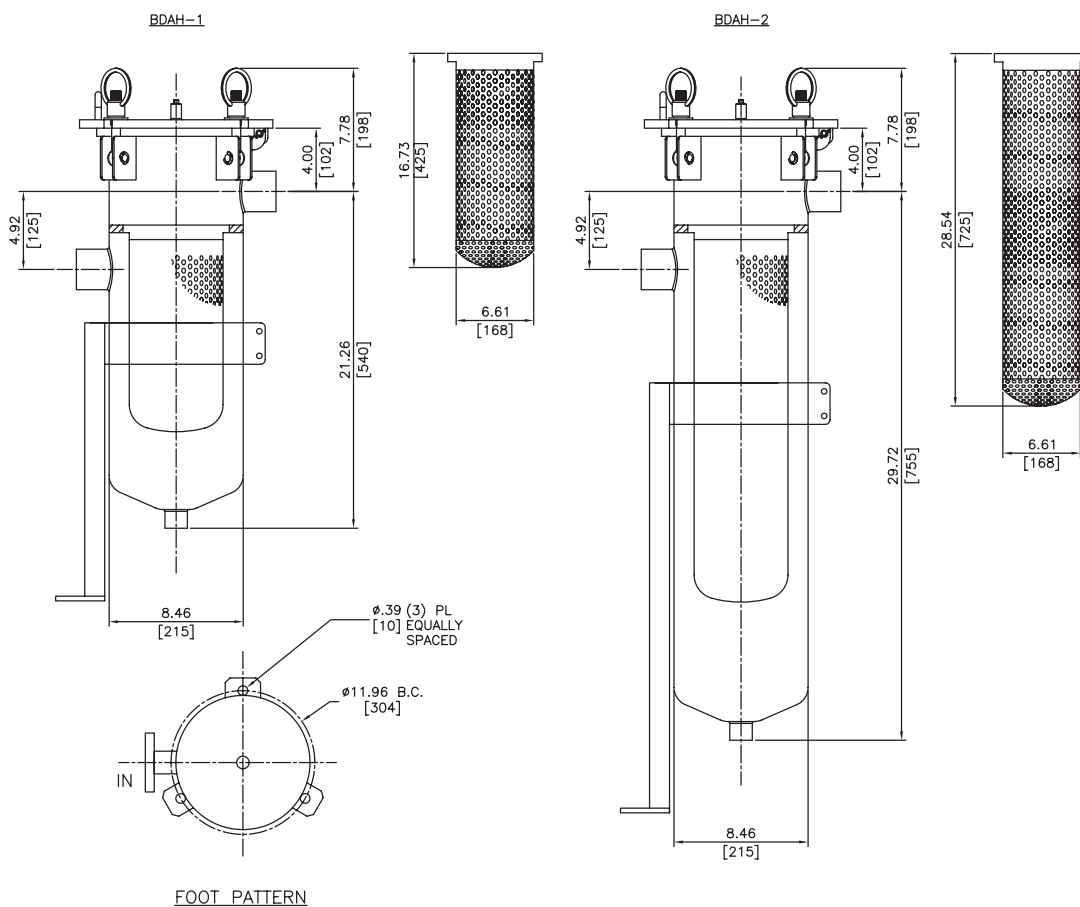
BCC

Filter Housing Specifications

Max Flow Rating:	BDAH1: 35 gpm (132 L/min) BDAH2: 70 gpm (265 L/min)
Inlet/Outlet Connection:	2" NPTF 2" SAE 4-Bolt Flange Code 61 2" BSPF
Max. Operating Pressure:	145 psi (10.3 bar)
Recommended Element Change Differential Pressure:	22 psi (1.5 bar)
Max. Element Differential Pressure:	55 psi (4 bar)
Temp. Range:	-20°F to 176°F (-29°C to 80°C)
Available Gauge Porting:	(2) ¼" BSP
Materials of Construction:	304 Stainless Steel
Weight:	BDAH1: 66 lbs. (30 kg) BDAH2: 84 lbs. (38 kg)
Element Change Clearance:	Min. required 14" (356 mm)

*Note: Elements sold separately

BDA-H



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

BDA

Water Absorbing Bag Element	Bag Housing Size	Micron Rating	Bag Element Dimensions
FA210P1PW	Size 1	10 µm	7" (178 mm) O.D. x 17" (432 mm) long
FA210P2PW	Size 2	10 µm	7" (178 mm) O.D. x 32" (813 mm) long

Replacement Element Information
Elements Sold Separately

BDA

ICF

BDF

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

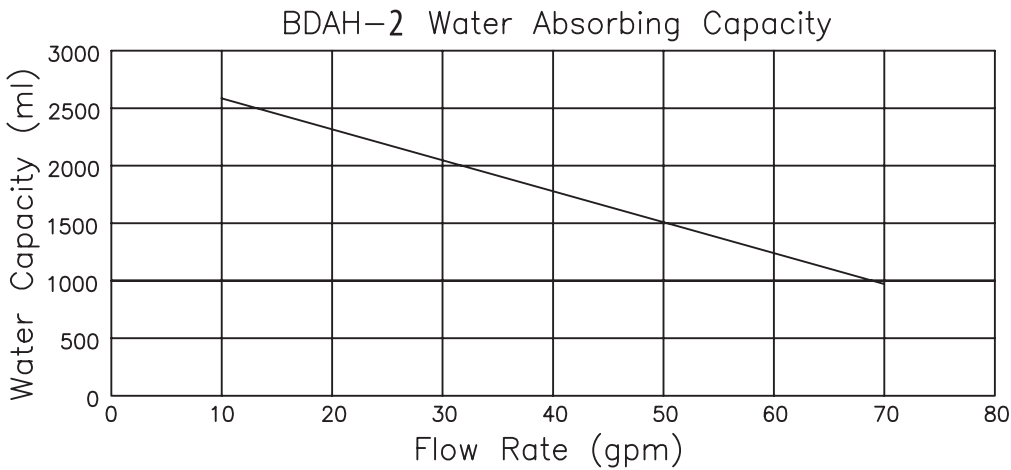
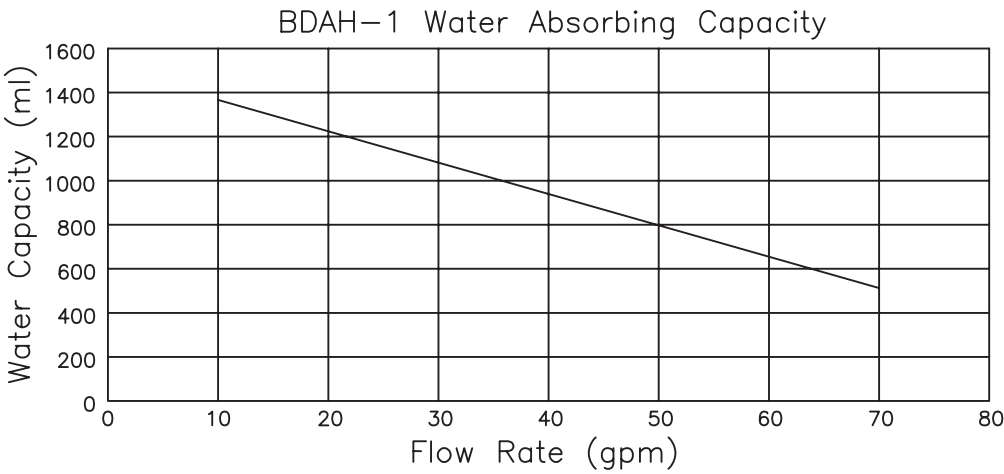
BDFP

BDC

HDP

HDPD

BCC



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

Pressure Drop Information
Based on Flow Rate and Viscosity

Notes

Filter
Model
Number
Selection

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

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

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6
BDA	H	1	V	P32	DPG

= BDAH1VP32DPG

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Product Configuration	Bag Element Size	Housing Seal Material
BDA	H = Housing	1 = Size 1 2 = Size 2	V = Viton®

BOX 5	BOX 6
Porting	Filter Indicator
P32 = 2" NPTF F32 = 2" SAE 4-Bolt Flange, Code 61 B32 = 2" BSPF	Omit = None DPG = Differential Pressure Gauge

NOTES:

Bag Filters sold separately and are listed below

Element
Part Number
Selection

Water Absorbing Element	Bag Housing Size	Max Flow Rate gpm (L/min)	Micron Rating	Bag Element Dimensions
FA210P1PW	Size 1	35 (132)	10 µm	7" (178 mm) O.D. x 17" (432 mm) long
FA210P2PW	Size 2	70 (265)	10 µm	7" (178 mm) O.D. x 32" (813 mm) long

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

Applications



FLEET FILL / BULK FUEL TRANSFER



BULK FUEL UNLOADING



PROTECTION FOR HIGH-FLOW FUEL INJECTION SYSTEMS



BULK TANK KIDNEY LOOP / RECIRCULATION

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:
GHPF11GGZ3VS24D5R

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



INDUSTRIAL



MOBILE VEHICLES



MARINE



MINING TECHNOLOGY



AGRICULTURE



POWER GENERATION



COMMON RAIL INJECTOR SYSTEMS



FLEET



RAILROAD



BULK FUEL FILTRATION

100 gpm ICF
380 L/min BDF

150 psi BDA
10.3 bar GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

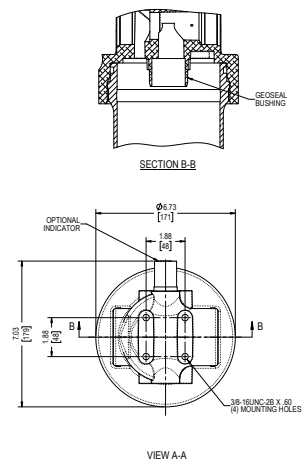
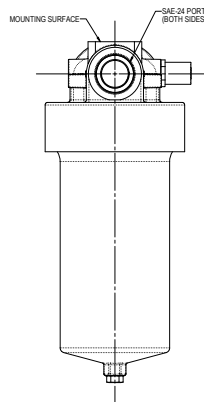
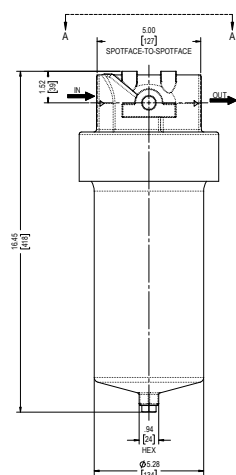
BDFC

Filter Housing Specifications
BDFP

HDP

HDPD

BCC



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

Media Type	Element	Filtration Ratio per ISO 16889	
		$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
Traditional Excellement® Z-Media®	11GGZ1V	<4.0	4.5
	11GGZ3V	4.6	5.8
	11GGZ5V	5.9	7.8
	11GGZ10V	11.4	13.2
	11GGZ25V	15.8	17.5

Dirt Holding Capacity

Media Type	Element	DHC (gm)
Traditional Excellement® Z-Media®	11GGZ1V	172
	11GGZ3V	148
	11GGZ5V	174
	11GGZ10V	165
	11GGZ25V	164

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

GHPF

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

Fluid Compatibility

ICF
DF

BDA

Element Selection

Based on
Flow Rate

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

Pressure Drop Information

Based on
Flow Rate
and Viscosity

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

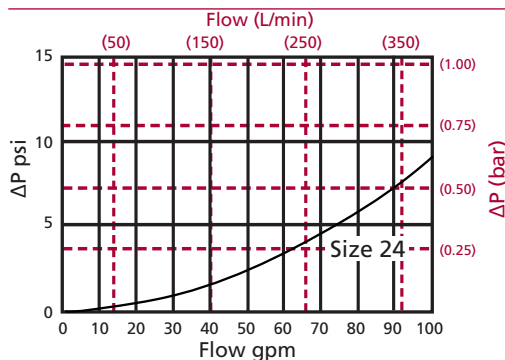
BCC

Pressure	Series	Element Part No.	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.					
	Z- Media®	11GGZ1V	11GGZ1V					
		11GGZ3V	11GGZ3V					
		11GGZ5V	11GGZ5V					
		11GGZ10V	11GGZ10V					
		11GGZ25V	11GGZ25V					
Flow		gpm	0	20	40	60	80	100
		(L/min)	0	50	150	250	380	

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

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

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



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

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

El. ΔP 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).

CF = Contact factory.

sp gr = specific gravity

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

Notes

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise:

Determine ΔP at 80 gpm (303 L/min) for GHPF11GGZ3VS24D5R using 37 SUS (3 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 6.0 \text{ psi [0.41 bar]}$$

$$\Delta P_{\text{element}} = 80 \times 0.05 \times (37 \div 37) = 4.0 \text{ psi}$$

or

$$= [303 \times (0.05 \div 54.9) \times (3 \div 3) = 0.28 \text{ bar}]$$

$$\Delta P_{\text{total}} = 6.0 + 4.0 = 10.0 \text{ psi}$$

or

$$= [0.41 + 0.28 = 0.69 \text{ bar}]$$

Filter Model Number Selection

Highlighted product eligible for **QuickDelivery**

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
GHPF									

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
GHPF	11GG	Z	3	V		S24	D5	R	

= GHPF11GGZ3-VS24D5

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Element Length & Series	Element Media	Micron Rating	Element Seal Material
GHPF	11GG	Z = Excellement® Z-Media® (synthetic)	1 = (1 µm, Z media) 3 = (3 µm, Z media) 5 = (5 µm, Z media) 10 = (10 µm, Z media) 25 = (25 µm, Z media)	V = Viton®

BOX 6	BOX 7	BOX 8
Bypass Setting	Inlet Port	Dirt Alarm® Options
Omit = 40 psid	S24 = SAE-24 P24 = 1.5" NPTF	Visual D5 = Visual pop-up w/manual reset

BOX 9	BOX 10
Indicator Orientation	Options
R = Right Side L = Left Side	Omit = None U = Downstream Test Point

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.

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

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:
GHCFCG5VS24D5RTH

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

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



BULK FUEL
FILTRATION

25 gpm ICF
95 L/min BDF

150 psi BDA
10.3 bar GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

Filter
Housing
Specifications

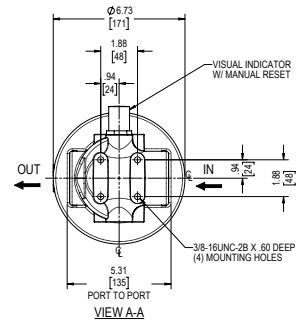
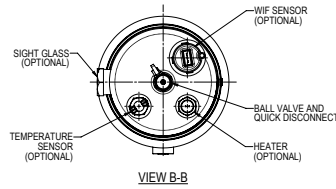
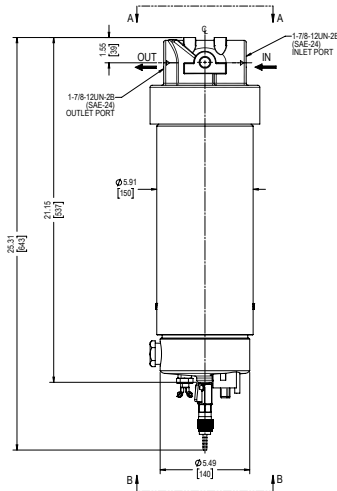
BDFP

BCC

HDP

HDPD

BCC



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.

Coalescing Element	Pressure Side Coalescing	
	Recommended Flow	Single Pass Water Removal Efficiency
C125GZ5V	25 gpm	> 95%

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.

**Filter
Element
Selection
Coalescing
Element
Performance
Information**
Elements Sold
Separately

**Fluid
Compatibility**

Diesel Fuel and Biodiesel (B100).

For other Distillate Petroleum, Contact Factory.

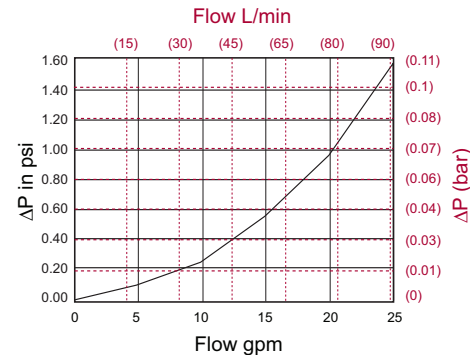
GeoSeal® High-Flow Coalescing Filter



*Coalescing Elements Patent-Pending

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

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



sp gr = specific gravity

Notes

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

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

Element ΔP 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).

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise: Determine ΔP at 25 gpm (95 L/min) for GHCF5V

Solution:

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

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

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

Coalescing Element	Pressure Side Coalescing	
	Recommended Flow	Single Pass Water Removal Efficiency
C125GZ5V	25 gpm	> 95%

Flow Direction: Inside Out

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

Pressure Drop Information Based on Flow Rate and Viscosity

ICF
BDF
BDA
GHPF
GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

Filter Element Selection Coalescing Element Performance Information
Elements Sold Separately

Highlighted product eligible for QuickDelivery

Filter Model Number Selection

Highlighted product eligible for **QuickDelivery**

How to Build a Valid Model Number for a Schroeder GHCF:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
GHCF							

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
GHCF	CG5	V		S24	D5	R	

= GHCFCG5VS24D5R

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Coalescing Filtration	Element Seal Material	Bypass Setting	Inlet Port
GHCF	CG5 = C125GZ5V Coalescing Element	V = Viton®	Omit = 40 psid X = Blocked Bypass	S24 = SAE-24 P24 = 1.5" NPTF

BOX 6
Dirt Alarm® Options
Visual D5 = Visual pop-up w/manual reset

BOX 7	BOX 8
Indicator Orientation	Sump Options
R = Right Side L = Left Side	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 over-pressuring 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

*Coalescing Elements Patent-Pending

QCF

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

70 gpm
265 L/min
100 psi
7 bar

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

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.

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)



Model no. of filter in photograph
is: QCF5VS24VM

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



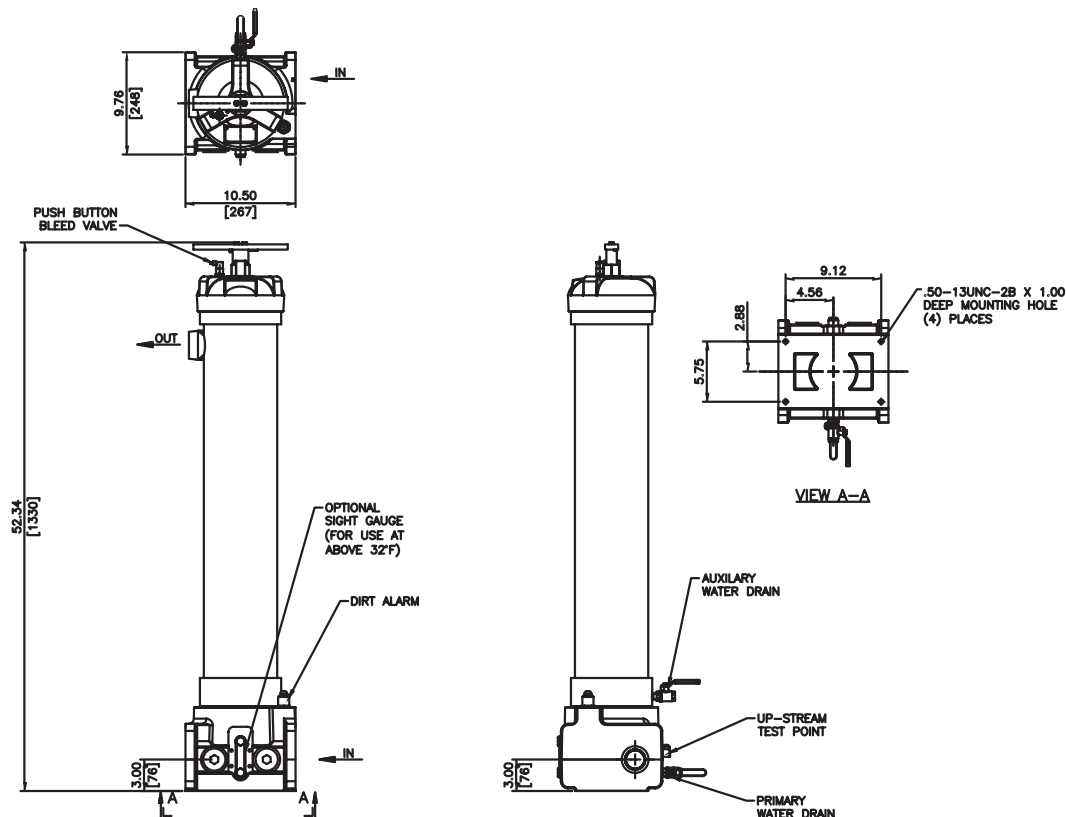
BULK FUEL
FILTRATION

Filter Housing Specifications

Flow Rating:	Up to 70 gpm (265 L/min) for ULSD15
Inlet/Outlet Connection:	-24 (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) Standard 32°F to 165°F (0°C to 74°C) with optional sight gauge
Bypass Indication:	25 psi (1.7 bar) (Lower indication options available)
Bypass Valve Cracking:	30 psi (2 bar)
Materials of Construction:	Porting Base: Anodized Aluminum Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard) Cap: Nickel Coated Ductile Iron
Weight:	155 Lbs. (77 kg)
Element Change Clearance:	33.8" (858 mm)

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

QCF

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

Element Coalescing Performance Information
Element Sold with Housing

Highlighted product eligible for **QuickDelivery**

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

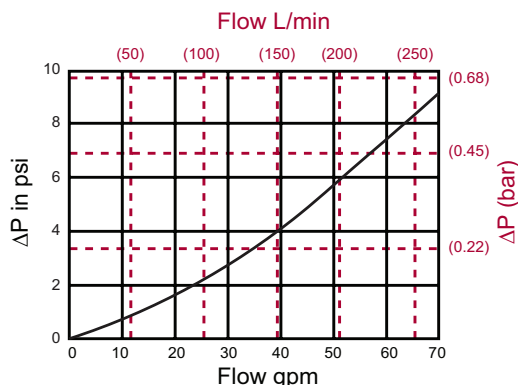
HDP

HDPD

BCC

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

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



sp gr = specific gravity

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

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

El. ΔP factors @ 37 SUS (3 cSt).

C396Z5V = .17

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

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

Pressure Drop Information
Based on Flow Rate and Viscosity

Notes

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise: Determine ΔP at 70 gpm (265 L/min) for QCFC5V24VM

Solution:

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

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

$$\Delta P_{\text{total}} = 9.2 + 11.9 = 21.1 \text{ psi} [1.46 \text{ bar}]$$

Filter
Model
Number
Selection

How to Build a Valid Model Number for a Schroeder QCF Housing with Element:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
QCF						

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
QCF	C	5	V	S24	VM	

= QCFC5VS24VM

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Coalescing Element Series	Element Media Type	Housing Sealing Material
QCF	C = C396Z5V	5 = 5 µm Coalescing	V = Viton®

BOX 5	BOX 6	BOX 7
Porting	Bypass Indicator Series	Additional Options
S24 = -24 (ORB) SAE J1926	VM = Visual Pop-Up w/ Manual Reset	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

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

Element
Part Number
SelectionHighlighted
product eligible for
QuickDelivery

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

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

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

70 gpm ICF
265 L/min BDF
100 psi BDA
7 bar GHPF
GHCF
QCF

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



Model no. of filter in photograph
is: BDS39QPMLZ3VVM

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



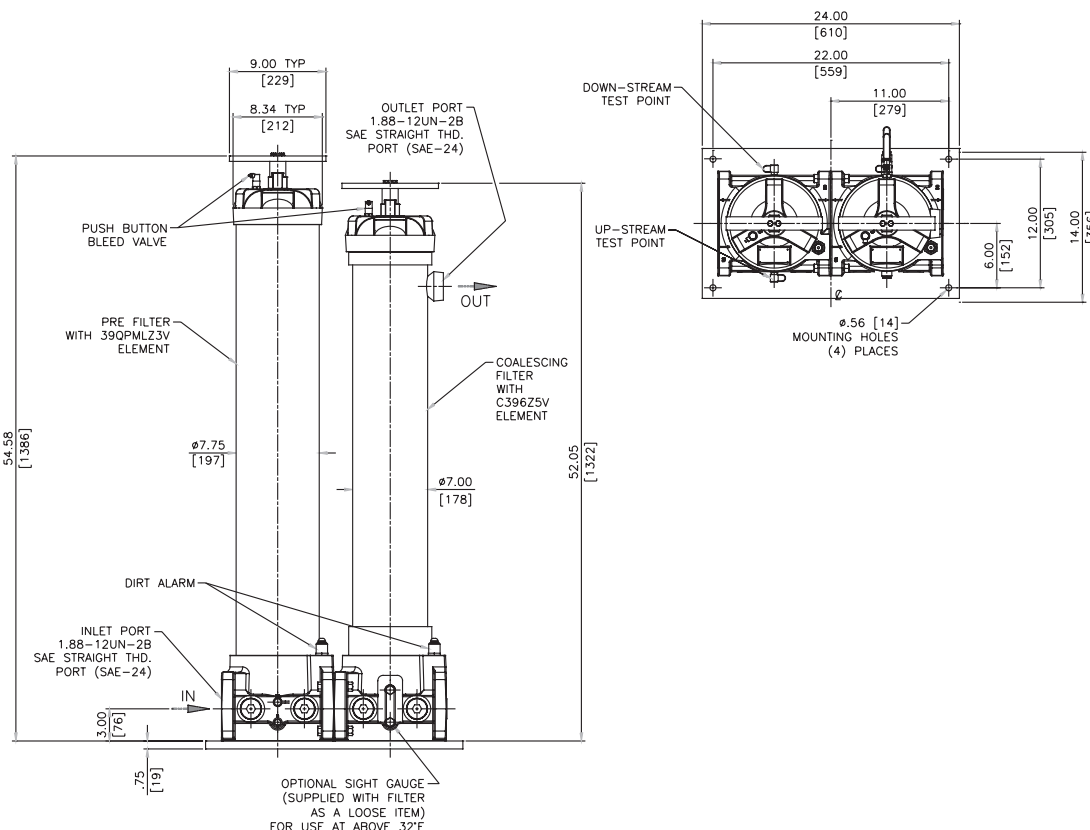
BULK FUEL
FILTRATION

Filter Housing Specifications

Flow Rating:	Up to 70 gpm (265 L/min) for ULSD15	
Inlet/Outlet Connection:	-24 (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: (Lower indication options available)	<u>Particulate Filter</u> Particulate: 15 psi (1.03 bar)	<u>Coalescing Filter</u> Coalescing: 25 psi (1.7 bar)
Bypass Valve Cracking:	<u>Particulate Filter</u> Particulate: 20 psi (1.37 bar)	<u>Coalescing Filter</u> Coalescing: 30 psi (2 bar)
Materials of Construction:	<u>Particulate Filter</u> Porting Base: Anodized Aluminum Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard) Cap: Plated Steel	<u>Coalescing Filter</u> Porting Base: Anodized Aluminum Element Bowl: Epoxy Paint w/ High-phos Electroless Nickel Plating (Standard) Cap: Plated Steel
Weight:	441 Lbs. (200 kg)	
Element Change Clearance:	33.8" (858 mm)	

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.

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	$\geq 99.5\%$

Note:

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

Particulate Element

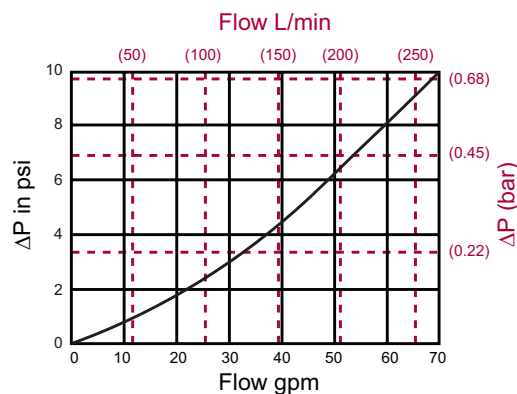
Flow Direction: Outside In
Element Nominal Dimensions: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

Coalescing Element

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

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

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



sp gr = specific gravity

Notes

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

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

El. ΔP factors @ 37 SUS (3 cSt).

C396Z5V = .17

39QPMLZ1V = .01

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).

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise: Determine ΔP at 70 gpm (265 L/min) for BDS39QPMLZ3VVM

Solution:

$$\Delta P_{\text{housing}} = 10 \text{ psi} = [0.69 \text{ bar}]$$

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

$$\Delta P_{\text{element (C396)}} = 70 \times 0.17 = 11.9 \text{ psi} [.82 \text{ bar}]$$

$$\Delta P_{\text{total}} = 10 + 0.7 + 11.9 = 22.6 \text{ psi} [1.56 \text{ bar}]$$

Element Particulate Performance Information

Element Coalescing Performance Information

Highlighted product eligible for QuickDelivery

Pressure Drop Information

Based on Flow Rate and Viscosity

Filter
Model
Number
Selection

How to Build a Valid Model Number for a Schroeder BDS supplied with coalescing element:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
BDS				

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
BDS	39QPMLZ3	V	VM	

= BDS39QPMLZ3VVM

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Particulate Filter Micron Rating	Housing Seal Material	Dirt Alarm®
BDS	39QPMLZ1 = 1µm 39QPMLZ3 = 3µm	V = Viton®	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

Element
Part Number
Selection

Highlighted
product eligible for
QuickDelivery

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

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

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



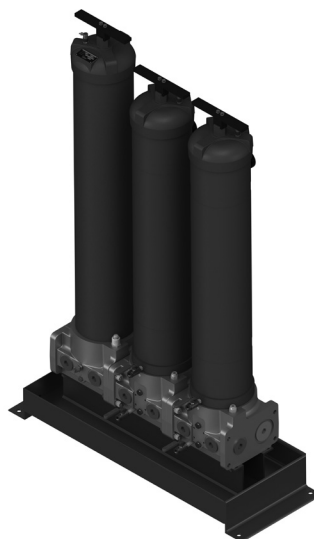
PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

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



Model no. of filter in photograph is:
BDS239QPMLZ3VVM

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



BULK FUEL
FILTRATION

70-140 gpm ICF
248-530 L/min BDF
100 psi BDA
7 bar

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

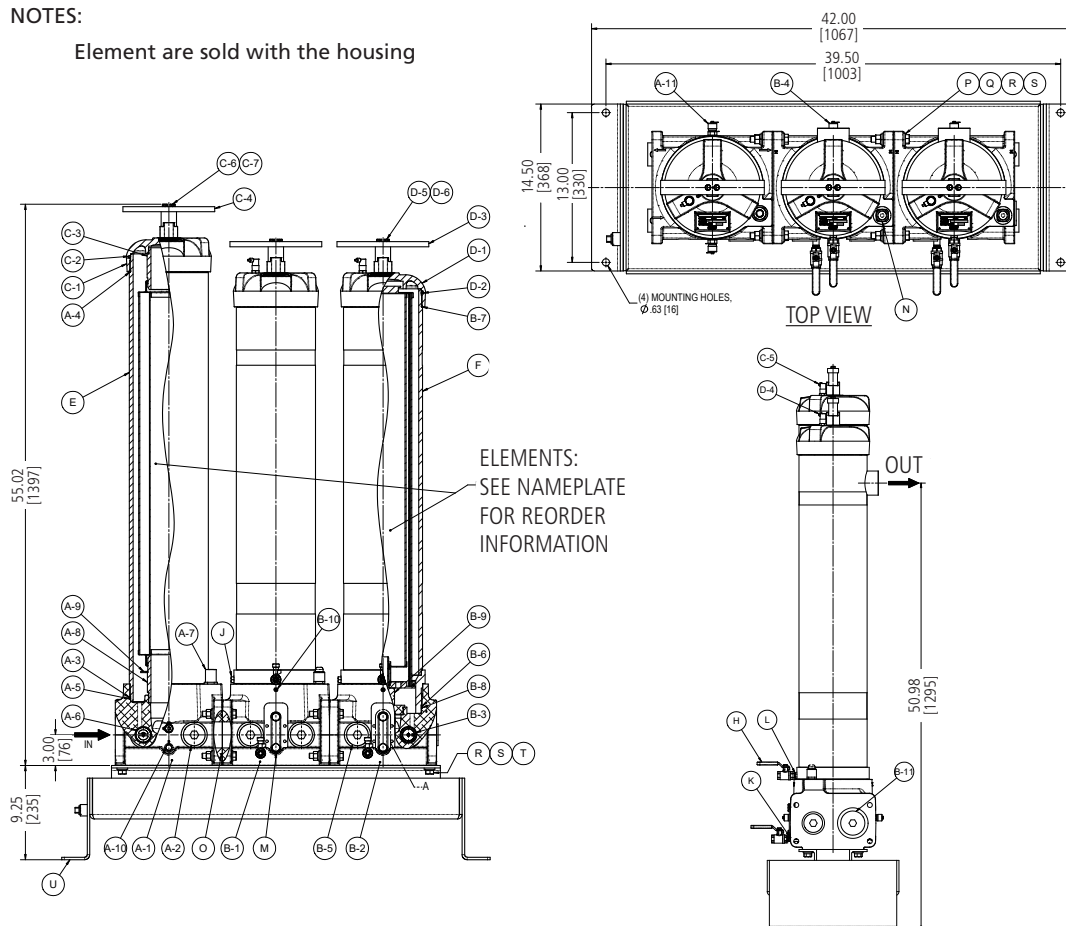
BCC

Filter Housing Specifications

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 Coalescing: 25 psi (1.7 bar)
Bypass Valve Cracking:	Particulate Filter Particulate: 20 psi (1.37 bar)	Coalescing Filter Coalescing: 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:	596 Lbs. (270 kg)	
Element Change Clearance:	33.8" (858 mm)	

NOTES:

Element 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.

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	$\geq 99.5\%$

Note:

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

Particulate Element

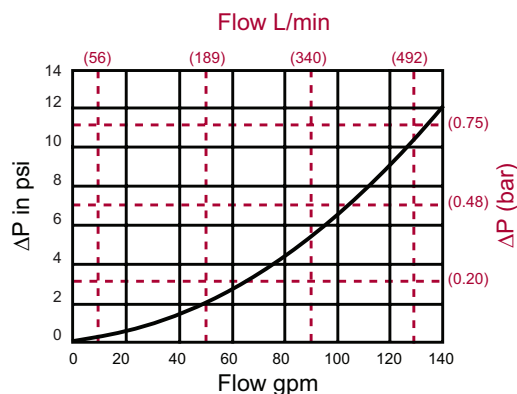
Flow Direction: Outside In
Element Nominal Dimensions: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

Coalescing Element

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

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

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



sp gr = specific gravity

Notes

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

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

El. ΔP factors @ 37 SUS (3 cSt).

C396Z5V = .17

39QPMLZ1V = .01

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).

$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$

Exercise: Determine ΔP at 70 gpm (265 L/min) for BDS239QPMLZ3VVM

Solution:

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

$\Delta P_{\text{element (39QPML)}} = 70 \times 0.01 = 0.7 \text{ psi} [0.05 \text{ bar}]$

$\Delta P_{\text{element (C396)}} = 70 \times 0.17 = 11.9 \text{ psi} [0.82 \text{ bar}]$

$\Delta P_{\text{total}} = 3.0 + 0.7 + 11.9 = 15.6 \text{ psi} [1.07 \text{ bar}]$

Element Particulate Performance Information

Element Coalescing Performance Information

Elements Sold with Housing

Highlighted product eligible for QuickDelivery

BDS2

Pressure Drop Information

Based on Flow Rate and Viscosity

Filter Model Number Selection

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
BDS					

Example: NOTE: One option per box

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

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	No. of Coalescing Filters	Particulate Filter Micron Rating	Housing Seal Material
BDS	2 = 140gpm	39QPMLZ1 = 1µm 39QPMLZ3 = 3µm	V = Viton®

BOX 5	BOX 6
Dirt Alarm®	Sump Options
VM = Visual Pop-Up w/ Manual Reset	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

Element Part Number Selection

Highlighted product eligible for **QuickDelivery**

Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171			
Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

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

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

140-210 gpm^{ICF}

530-795 L/min^{BDF}

100 psi^{BDA}

7 bar

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

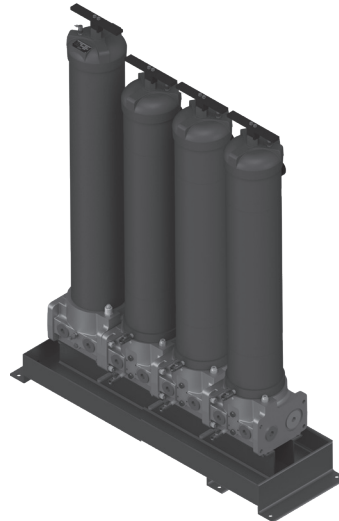
HDP

HDPD

BCC

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



Model no. of filter in photograph is:
BDS339QPMLZ3VVM

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD



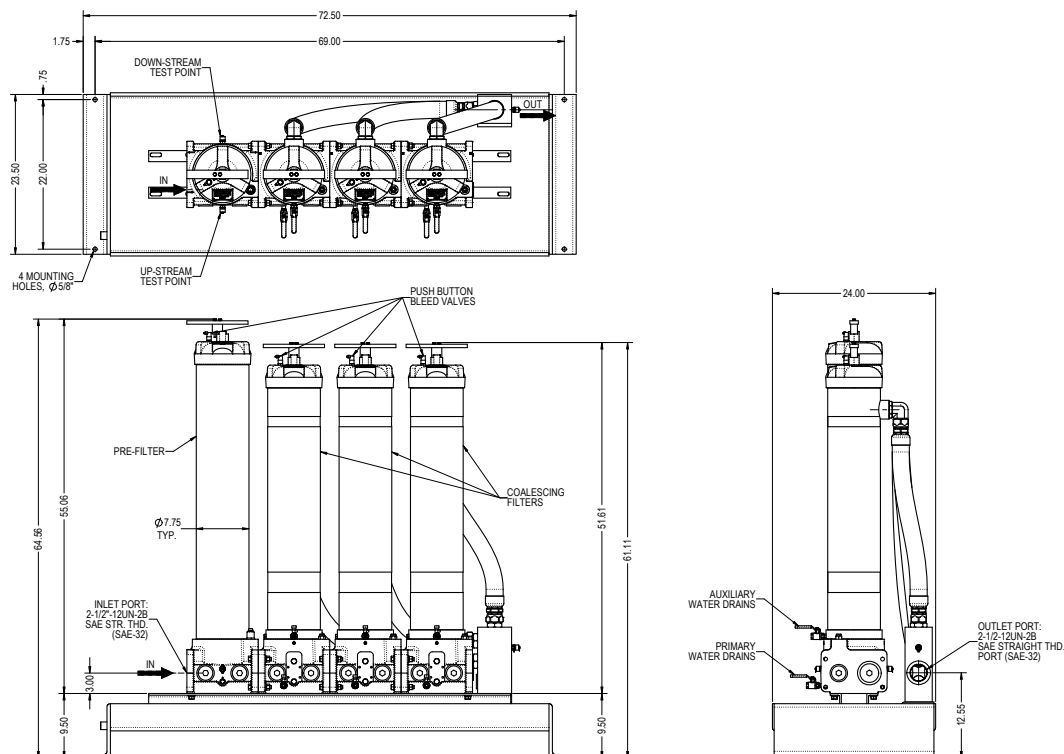
BULK FUEL
FILTRATION

Filter Housing Specifications

Flow Rating:	Up to 140 gpm to 210 gpm (530 to 795 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) Particulate: 15 psi (1.03 bar)	Coalescing Filter Coalescing: 25 psi (1.7 bar)
Bypass Valve Cracking:	Particulate Filter Particulate: 20 psi (1.37 bar)	Coalescing Filter Coalescing: 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:	596 Lbs. (270 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.

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	$\geq 99.5\%$

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

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

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

Note: Contact Factory for deltaP housing data

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

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

El. ΔP factors @ 37 SUS (3 cSt).

C396Z5V = .17

39QPMLZ1V = .01

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).

$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$

Exercise: Determine ΔP at 70 gpm (265 L/min) for BDS239QPMLZ3VVM

Solution:

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

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

$\Delta P_{\text{element (C396)}} = 70 \times 0.17 = 11.9 \text{ psi} [.82 \text{ bar}]$

$\Delta P_{\text{total}} = 3.0 + 0.7 + 11.9 = 15.6 \text{ psi} [1.07 \text{ bar}]$

Notes

Element
Particulate
Performance
Information

Element
Coalescing
Performance
Information
Elements Sold
with Housing

Highlighted
product eligible for
QuickDelivery

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

Pressure
Drop
Information
Based on
Flow Rate
and
Viscosity

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

Filter Model Number Selection

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
BDS					

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	
BDS	3	39QPMLZ3	V	VM		= BDS339QPMLZ3VVM

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	No. of Coalescing Filters	Particulate Filter Micron Rating	Housing Seal Material
BDS	3 = 210gpm	39QPMLZ1 = 1µm 39QPMLZ3 = 3µm	V = Viton®

BOX 5	BOX 6
Dirt Alarm®	Sump Options
VM = Visual Pop-Up w/ Manual Reset	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

Element Part Number Selection

Highlighted product eligible for **QuickDelivery**

Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171			
Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

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

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

210-280 gpm ICF
795-1060 L/min IDP

100 psi BDA
7 bar GHFP

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

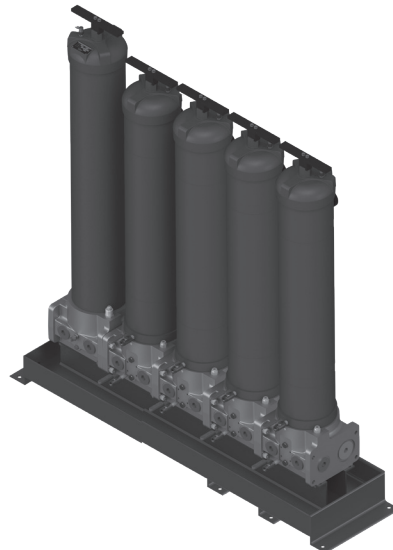
HDP

HDPD

BCC

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



Model no. of filter in photograph is:
BDS439QPMLZ3VVM

Markets



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION



COMMON RAIL
INJECTOR SYSTEMS



FLEET



RAILROAD

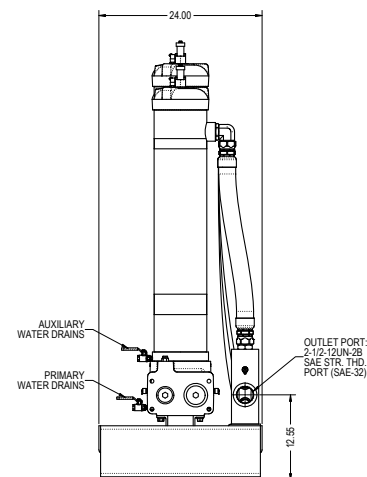
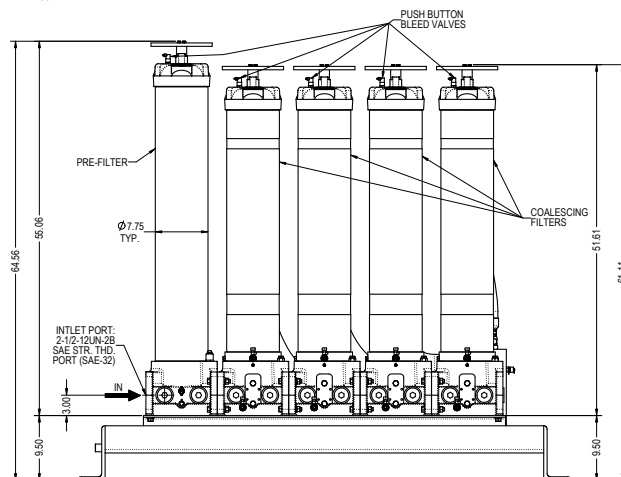
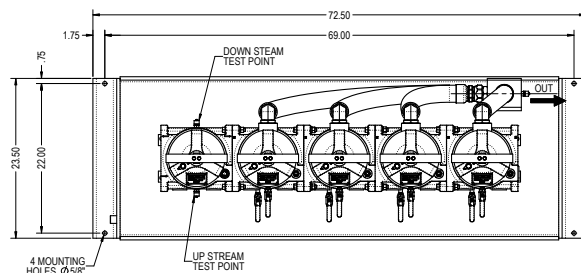


BULK FUEL
FILTRATION

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 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) Particulate: 15 psi (1.03 bar)	Coalescing Filter Coalescing: 25 psi (1.7 bar)
Bypass Valve Cracking:	Particulate Filter Particulate: 20 psi (1.37 bar)	Coalescing Filter Coalescing: 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.

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	$\geq 99.5\%$

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

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

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

Note: Contact Factory for deltaP housing data

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

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

El. ΔP factors @ 37 SUS (3 cSt).

C396Z5V = .17

39QPMLZ1V = .01

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).

$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$

Exercise: Determine ΔP at 70 gpm (265 L/min) for BDS239QPMLZ3VVM

Solution:

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

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

$\Delta P_{\text{element (C396)}} = 70 \times 0.17 = 11.9 \text{ psi} [.82 \text{ bar}]$

$\Delta P_{\text{total}} = 3.0 + 0.7 + 11.9 = 15.6 \text{ psi} [1.07 \text{ bar}]$

Notes

Element
Particulate
Performance
Information

Element
Coalescing
Performance
Information
Elements Sold
with Housing

Highlighted
product eligible for
QuickDelivery

Pressure
Drop
Information
Based on
Flow Rate
and
Viscosity

Filter Model Number Selection

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
BDS					

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	
BDS	4	39QPMLZ3	V	VM		= BDS439QPMLZ3VVM

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	No. of Coalescing Filters	Particulate Filter Micron Rating	Housing Seal Material
BDS	4 = 280gpm	39QPMLZ1 = 1µm 39QPMLZ3 = 3µm	V = Viton®

BOX 5	BOX 6
Dirt Alarm®	Sump Options
VM = Visual Pop-Up w/ Manual Reset	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

Element Part Number Selection

Highlighted product eligible for **QuickDelivery**

Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171			
Particulate Elements	DHC	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
39QPMLZ1V	1485 grams	<4.0	4.2
39QPMLZ3V	1525 grams	<4.0	4.8

Coalescing Element	Pressure Side Coalescing	
	Max Flow	Single Pass Water Removal Efficiency
C396Z5V	70 gpm	≥ 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

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

High Flow | Low Viscosity Housing Filter

LVHF

*Coalescing Elements Patent-Pending

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

211- 951 gpm ICF

799-3600 L/min BDF

150 psi BDA

10 bar GHPF

Standard

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

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.



Model no. of filter in photograph is:
LVHF340NBRFZ

Markets



INDUSTRIAL



BULK FUEL
FILTRATION



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION

Filter Housing Specifications

Flow Rating: 211-951 gpm (799-3600 L/min)

Inlet/Outlet Connection: ANSI 150#: 2" - 12"
DIN: DN50-DN300

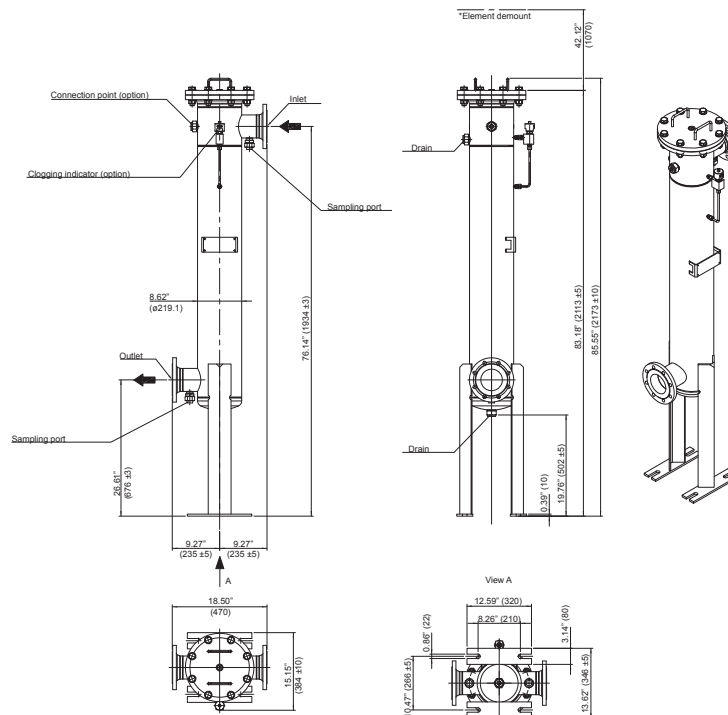
Max. Operating Pressure: 150 psi (10 bar)

Max. Ambient Temperature: 122°F (50°C)

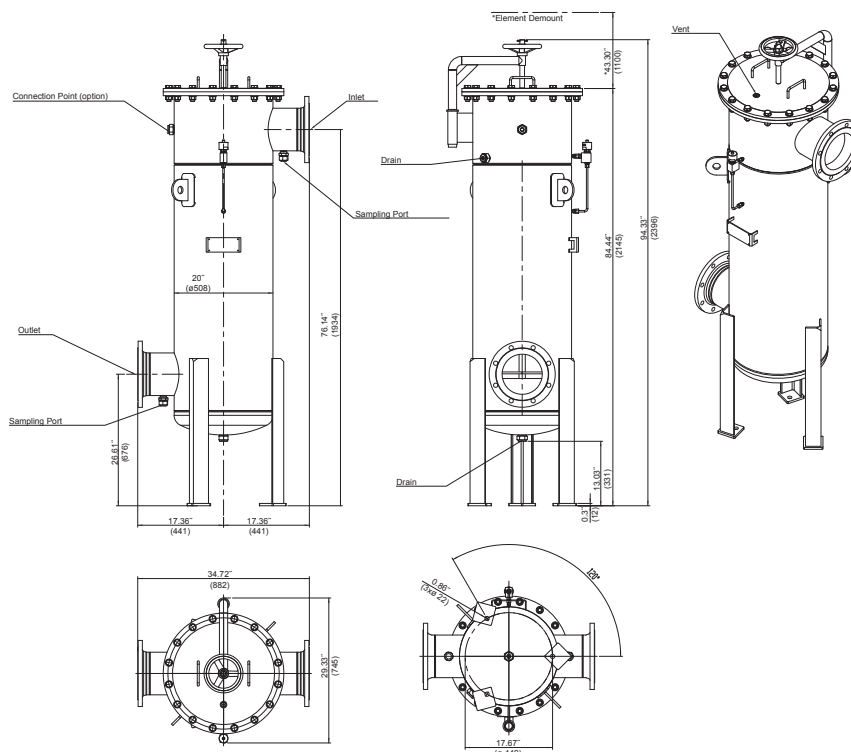
Max. Operating Temperature: 158°F (70°C)

Material Housing: Stainless Steel or Carbon Steel

Dimensions LVH-F1



Dimensions LVH-F8



Metric dimensions in ().

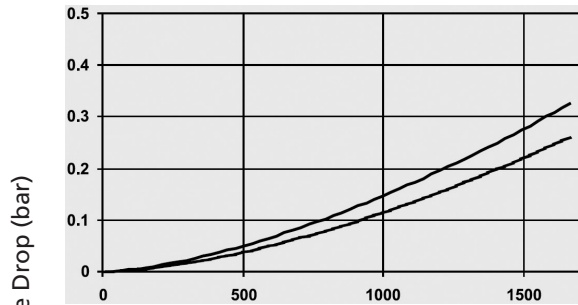
Dimensions shown are inches (millimeters) for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.

High Flow | Low Viscosity Housing Filter

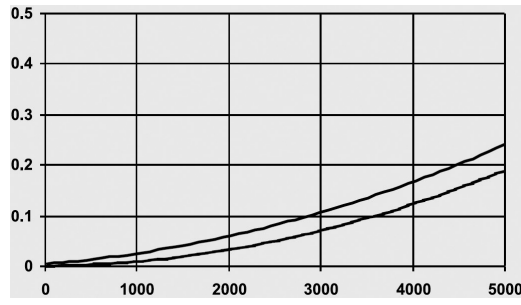
LVHF

The lower curve applies to diesel at 20°C (the upper curve is for mineral oil with viscosity to 30 cSt for comparison).

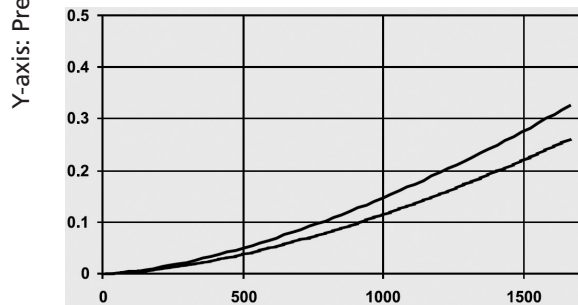
LVH-F-140



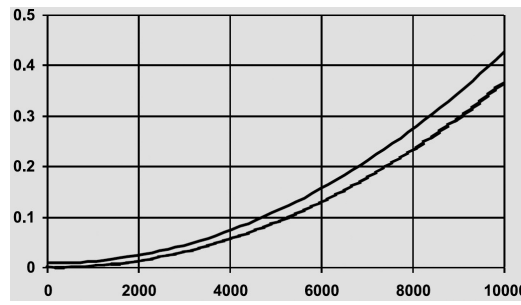
LVH-F-440



LVH-F-340



LVH-F-840



X-axis: Flow Rate (L/min)

Filter Size (Model)	Maximum Flow Rate	Number of Filter Elements
LVH-F-1 40	211 gpm	1 pc.
LVH-F-3 40	317 gpm	3 pcs.
LVH-F-4 40	476 gpm	4 pcs.
LVH-F-5 40	632 gpm	5 pcs.
LVH-F-8 40	951 gpm	8 pcs.

Element	Designation	Part No.
Filter Element 40"	N42ON-DF003-FA40F	3965085
	N42ON-DF005-FA40F	3916691
	N42ON-DF010-FA40F	4055947

* Contact Factory for More Details

Housing Pressure Drop Graphs (Housing ΔP)

ICF

BDF

BDA

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

Filter Calculation

Filter Element Selection

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

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder LVH-F Supplied with Element:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
LVH										

Example: NOTE:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
LVH	F	3	40	E	V	C	V	F	D12	ZA

= LVHF340EVCVFD12ZA

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Functions	Filter Size	Filter Element Length	Housing Material
LVH	F = Filter	1 = 1 filter element 3 = 3 filter elements 4 = 4 filter elements 5 = 5 filter elements 8 = 8 filter elements	40 = 40"	E = Stainless Steel N = Carbon Steel

BOX 6	BOX 7	BOX 8	BOX 9
Mounting	Pressure Range	Hydraulic Connection	Sealing
V = Vertical H = Horizontal	B = 150 psi (10 bar) C = 232 psi (16 bar)	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 R = DIN DN 100 V = DIN DN 150 W = DIN DN 200 Y = DIN DN 300	F = Viton®

For flanges not listed, contact factory.

BOX 10	BOX 11
Clogging Indicator	Available Certification
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	ZA = ASME Certification

NOTES:

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

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

High Flow | Low Viscosity Housing Coalescer

LVHC

*Coalescing Elements Patent-Pending

Applications



POINT OF USE
FUEL DISPENSING



FLEET FILL / BULK FUEL
TRANSFER



BULK FUEL
UNLOADING



PROTECTION FOR
HIGH-FLOW FUEL
INJECTION SYSTEMS



BULK TANK
KIDNEY LOOP /
RECIRCULATION

211- 476 gpm ICF

799-1802 L/min BDF

150 psi BDA

10 bar GHPF

Standard

GHPF

GHCF

QCF

BDS

BDS2

BDS3

BDS4

LVH-F

LVH-C

BDFC

BDFP

BDC

HDP

HDPD

BCC

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
- 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.



Model no. of filter in photograph
is: LVHCD440NV8TFZ

Markets



INDUSTRIAL



BULK FUEL
FILTRATION



MARINE



MINING
TECHNOLOGY



AGRICULTURE



POWER
GENERATION

Filter Housing Specifications

Flow Rating: 211-476 gpm (799-1802 L/min)

Inlet/Outlet Connection: ANSI 150#: 2" - 12"
DIN: DN50-DN300

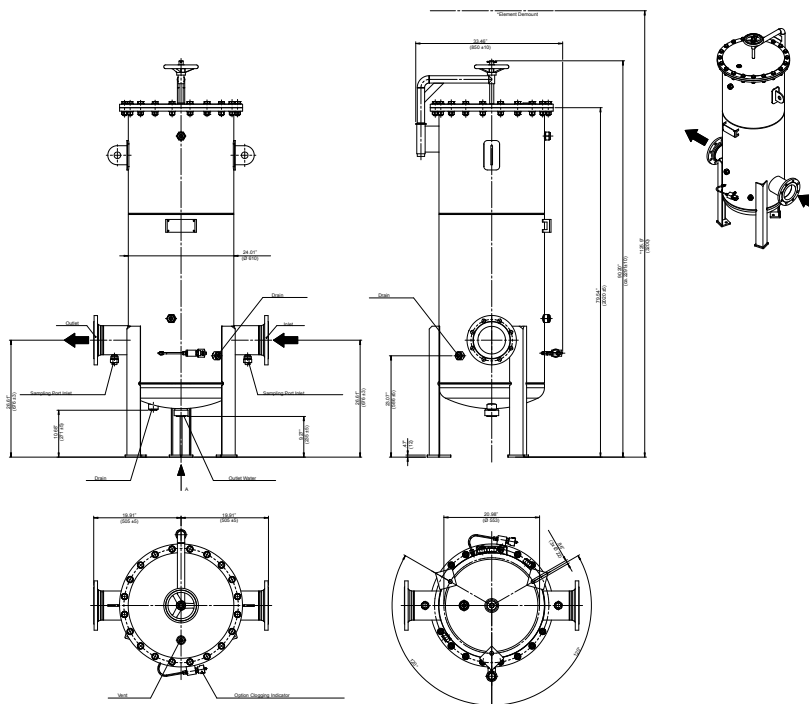
Max. Operating Pressure: 150 psi (10 bar)

Max. Ambient Temperature: 122°F (50°C)

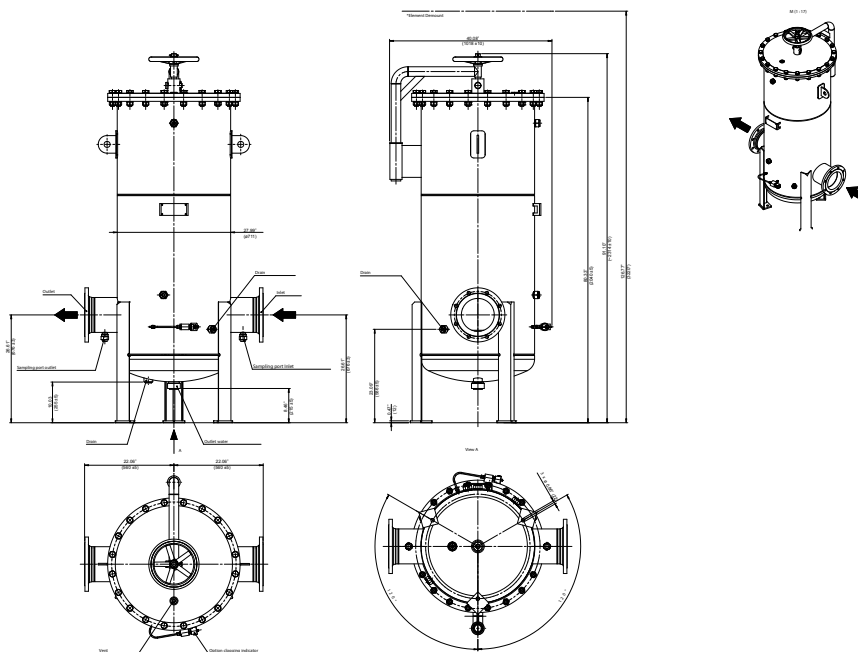
Max. Operating Temperature: 122°F (50°C)

Material Housing: Stainless Steel or Carbon Steel

Dimensions LVH-C-D-4-40



Dimensions LVH-C-D-6-40



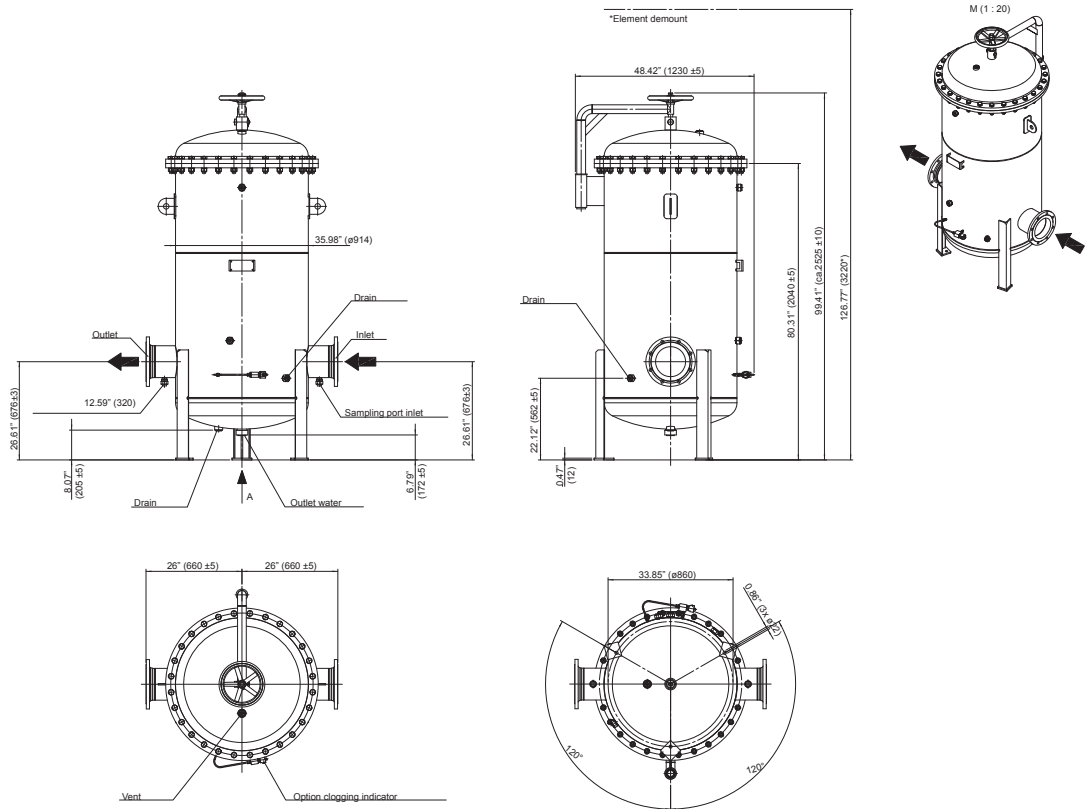
Metric dimensions in ().

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.

High Flow | Low Viscosity Housing Coalescer

LVHC

Dimensions
LVH-C-D-9-40



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
Calculation

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

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder LVH-C Supplied with Element:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
LVH										

Example: NOTE:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10	BOX 11
LVH	CD	4	40	E	V	B	V	F	D32	ZA

= LVHCD440EVBVFD32ZA

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Functions	Filter Size & Number of Elements per Housing	Filter Element Length	Housing Material
LVH	CD = Coalescing, Diesel Fuel	4 = 4 coalescing & 3 separator elements 6 = 6 coalescing & 4 separator elements 9 = 9 coalescing & 6 separator elements	40 = 40"	E = Stainless Steel N = Carbon Steel

BOX 6	BOX 7	BOX 8	BOX 9
Mounting	Pressure Range	Hydraulic Connection	Sealing
V = Vertical	B = 150 psi (10 bar)	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	F = Viton®

BOX 10	BOX 11
Clogging Indicator	Available Certification
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	ZA = ASME Certification

For flanges not listed, contact factory.

NOTES:

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

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