Section 1:

BULK DIESEL FILTRATION

In-Line Bulk Fuel Coalescing Filter

**Coalescing Elements Patent-Pending*

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: ICFVS16LEP

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

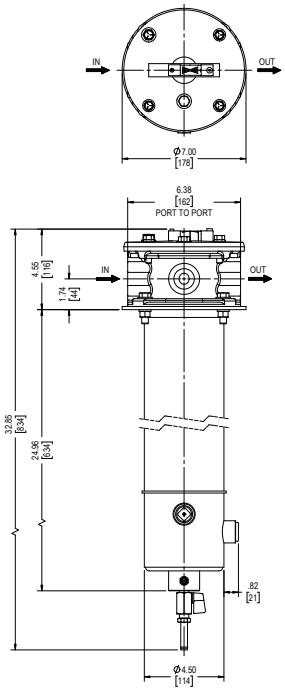
In-Line Bulk Fuel Coalescing Filter

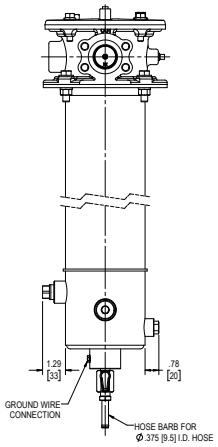
**Coalescing Elements Patent-Pending*

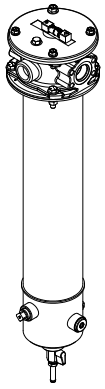
ICF

Flow Rating:	Up to 16 gpm (60 L/min) for ULSD15
Inlet/Outlet Connection:	1 ½" 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: Element Bowl:	Aluminum - Coating Option see Box 7 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



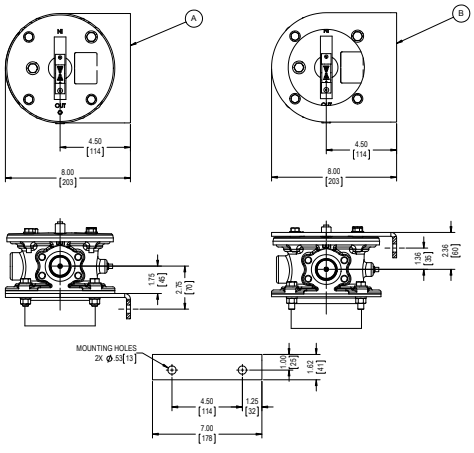




Optional Brackets:

Element top loading
Option 'B'

Element bottom loading
Option 'R'



MOUNTING BRACKET HOLE DIMENSIONS

Metric dimensions in ( ).

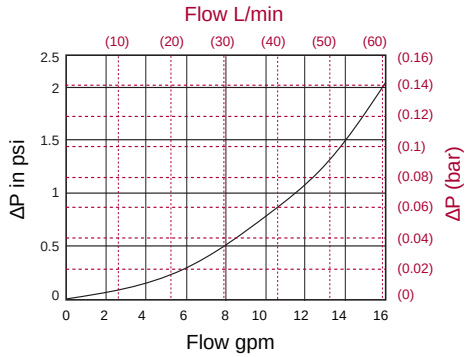
ICF In-Line Bulk Fuel Coalescing Filter

**Coalescing Elements Patent-Pending*

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

Notes

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

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

Solution:

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

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

ΔP_{total}= 2.05 + 3.2 = 5.25 psi [0.36 bar]

Filter Element Selection Coalescing Element Performance Information
Elements Sold Separately

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

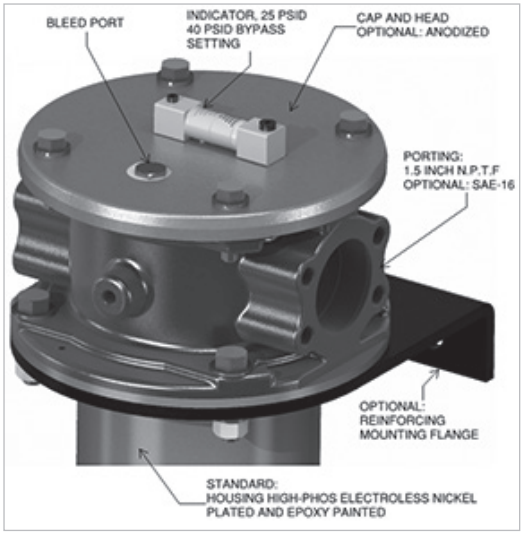
*NOTE: Efficiency based on ULSD15 with 27 Dynes/cm surface tension and 0.25% (2500 ppm) water injection. Discharge water concentration of <100 ppm free and emulsified water.

Highlighted product eligible for QuickDelivery

In-Line Fuel Coalescing Filter

ICF

**Coalescing Elements Patent-Pending*



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

ICF

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)

ICF In-Line Fuel Coalescing Filter

**Coalescing Elements Patent-Pending*

Filter Model Number Selection

Highlighted 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		= ICFVP24LBSIEPAAWD5

BOX 1 — Filter Series

ICF

BOX 2 — Sealing Material

V = Viton®

BOX 3 — Porting

P24 =	1½" NPTF (standard)
S16 =	-16 (ORB) SAE J1926

BOX 4 — Coalescing Element Change Indicator

L = In cap bar indicator

BOX 5 — Mounting Option

B =	Bracket (Element top loading)
R =	Bracket (Element bottom loading)
Omit =	None

BOX 6 — Filter Housing Sump Level Indicator Option

S =	Sight Glass
I =	Water In Fuel sensor w/ remote mount light indicator and 6' lead for use in factory supplied control panel
T =	Water In Fuel sensor w/out remote light for use in customer supplied control panel
Omit =	None

BOX 7 — Coating Option

EP =	Epoxy paint and plating (standard)
A =	Anodized cap & head (optional)

BOX 8 — Heating Option

H =	Filter Sump Heater
Omit =	None

BOX 9 — Automatic Drain & Remote Sump Options

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

BOX 10 — Optional Manual Drain Remote Sump

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 Selection

Highlighted product eligible for QuickDelivery

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*

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

Bulk Diesel Filter

BDF

**Coalescing Elements Patent-Pending*

25-50 gpm
95-189 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

- 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

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD

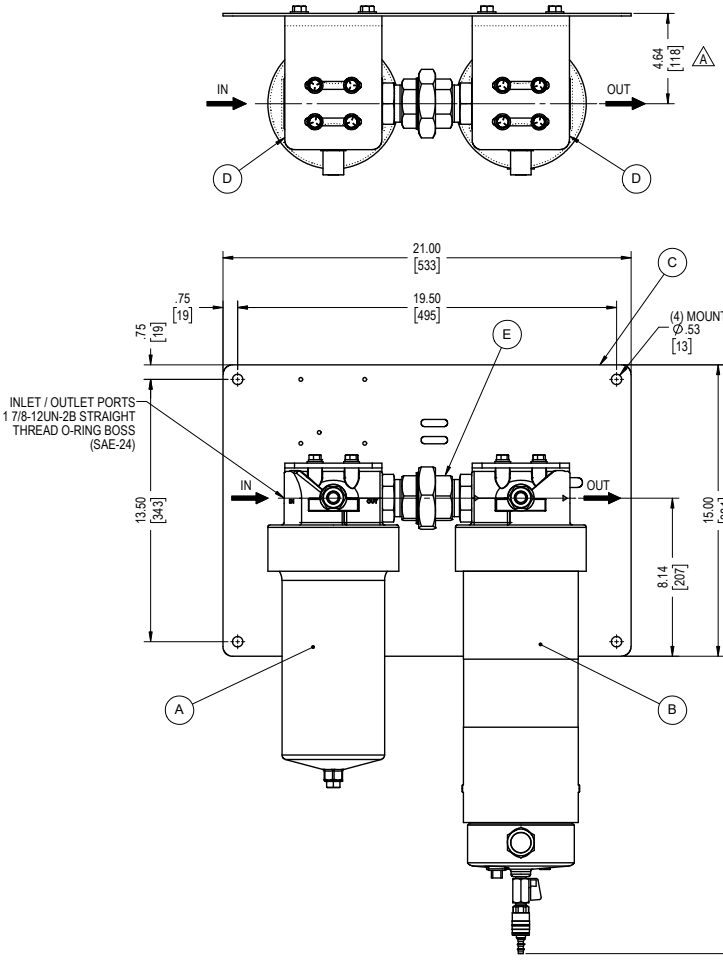

BULK FUEL FILTRATION

BDF Bulk Diesel Filter

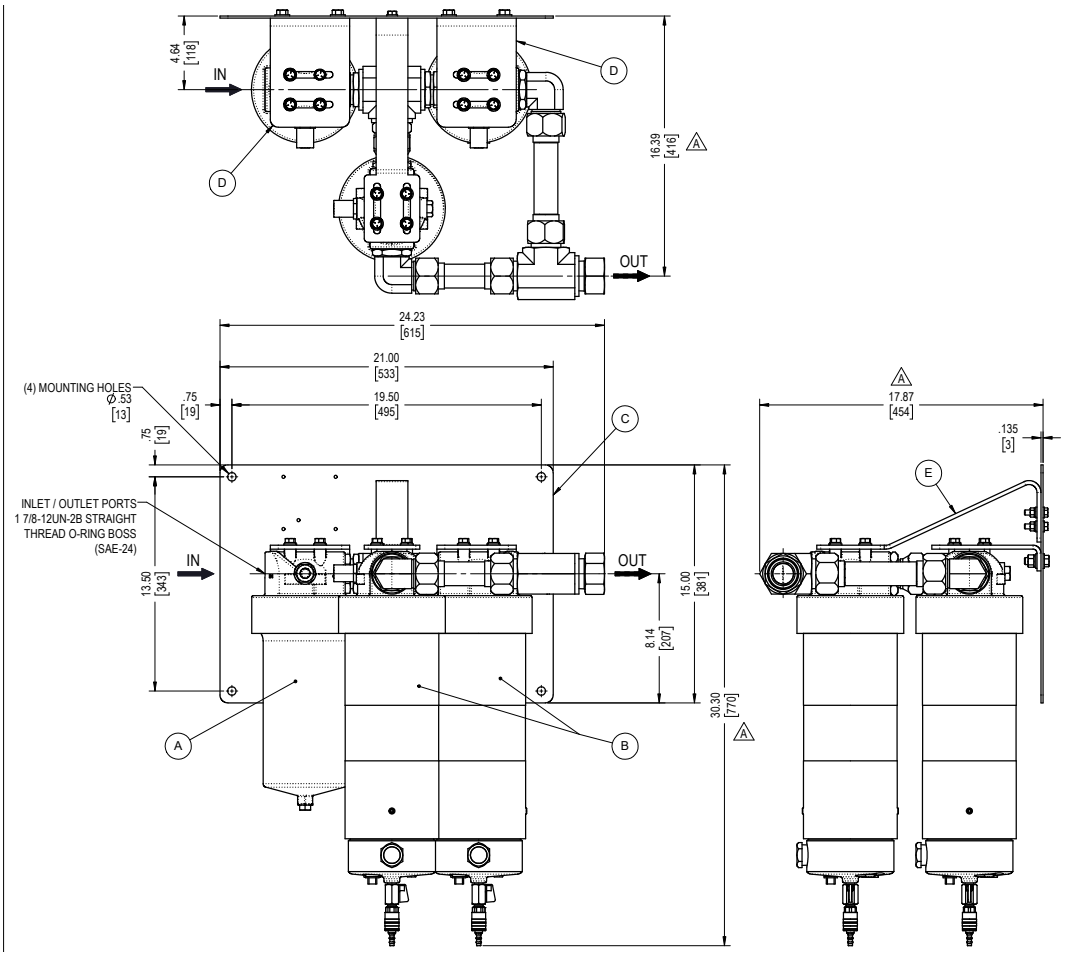
Filter Housing Specifications

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:	Particulate Filter 35 psi (2.4 bar)	Coalescing Filter 35 psi (2.4 bar)
Bypass Valve Cracking:	Particulate Filter 40 psi (2.8 bar)	Coalescing Filter 40 psi (2.8 bar)
Materials of Construction:	Particulate & Coalescing Filter Porting Head: Cast Aluminum, Anodized Element Case: Aluminum, Anodized	Coalescing Filter Only Sump: Cast Aluminum, Anodized
Weight:	BDF1: 46.5 lbs	BDF2: 89 lbs
Element Change Clearance:	Particulate Filter 2" (51 mm)	Coalescing Filter 4.5" (114 mm)
Opt. Water Sump Heater:	120VAC, 1 x 74W (BDF1) / 2 x 74W (BDF2)	
Opt. Visual Electrical Indicator:	120VAC	

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.

BDF2

Element Particulate Performance Information

		Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
Particulate Elements	DHC(g)	β_x (c) ≥ 200	β_x (c) ≥ 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 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

Element Water Coalescing Performance Information

Particulate and Coalescing Elements Sold with System

Highlighted product eligible for QuickDelivery

BDF Bulk Diesel Filter

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		= BDF111GZ3CG5VD5

BOX 1 – Filter Series

BDF

BOX 2 – Flow Rate

1 =	25 gpm
2 =	50 gpm

BOX 3 – Particulate Filtration

11GGZ1 =	1 µm
11GGZ3 =	3 µm

BOX 4 – Particulate Bypass

Omit = 40 psi
X = Blocked Bypass

BOX 5 – Coalescing Filtration

CG5 =	C125GZ5V Coalescing Element

BOX 6 – Coalescing Bypass

Omit = 40 psi
X = Blocked Bypass

BOX 7 – Seal Material

V = Viton®

BOX 8 – Indicators

D5 = Visual Pop-up, Manual Reset

BOX 9 – Options

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

Particulate Elements	DHC(g)	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 β_x (c) ≥ 200	β_x (c) ≥ 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

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

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.


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

Features and Benefits

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

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD


BULK FUEL FILTRATION

35 or 70 gpm
132 or 265 L/min

145 psi
10 bar

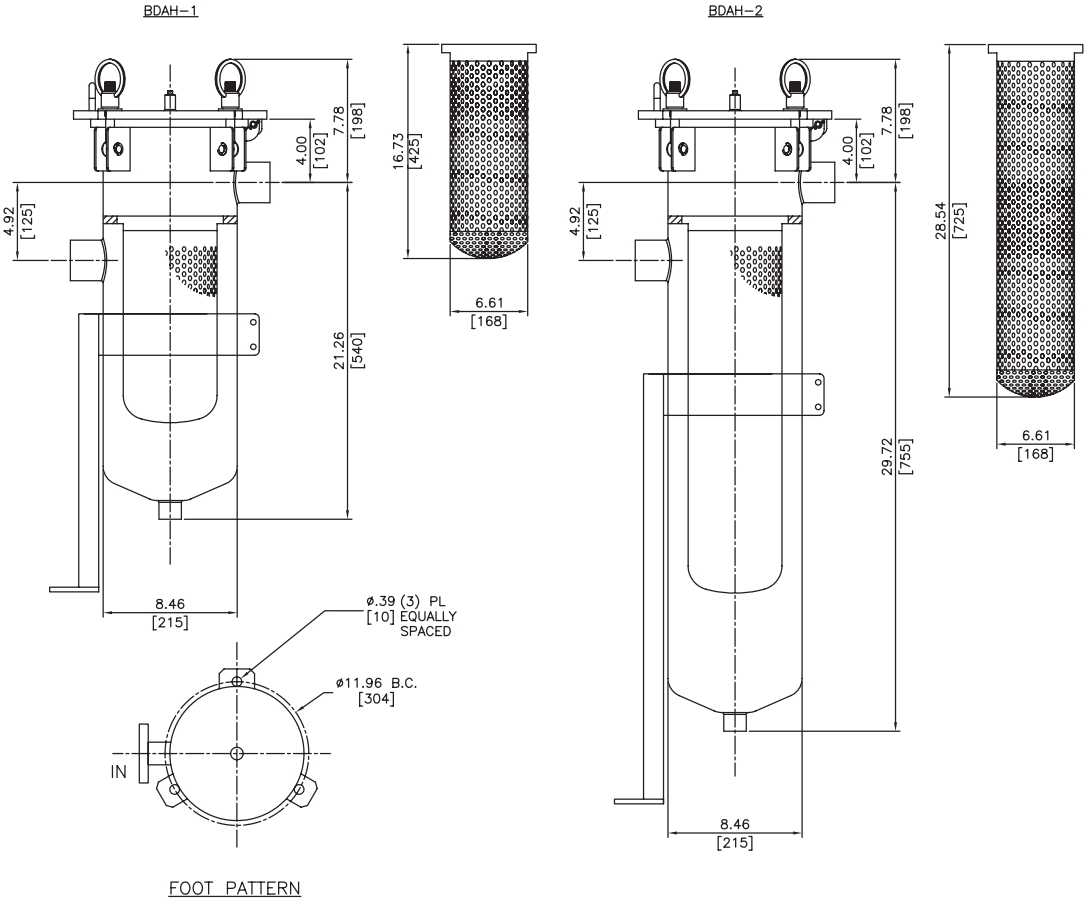
BDA In-Line Water Absorbing Diesel Fuel Filter

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

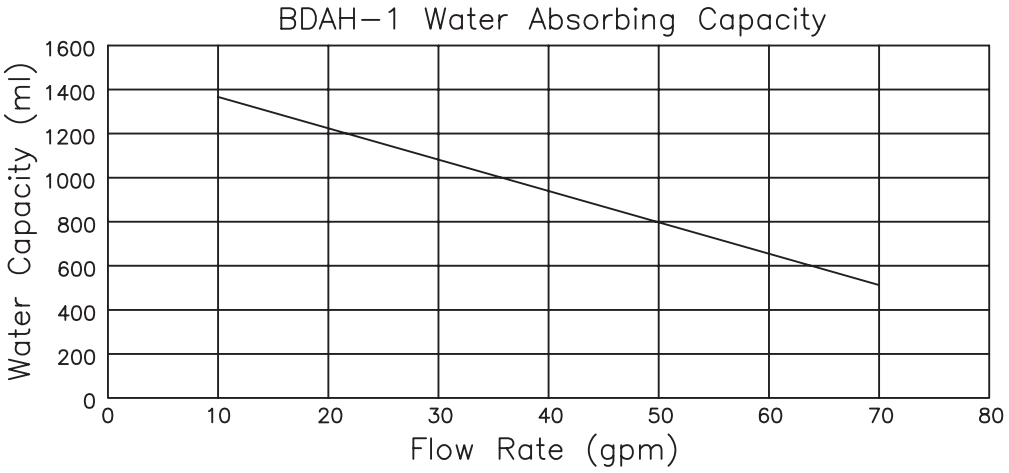
BDA-H

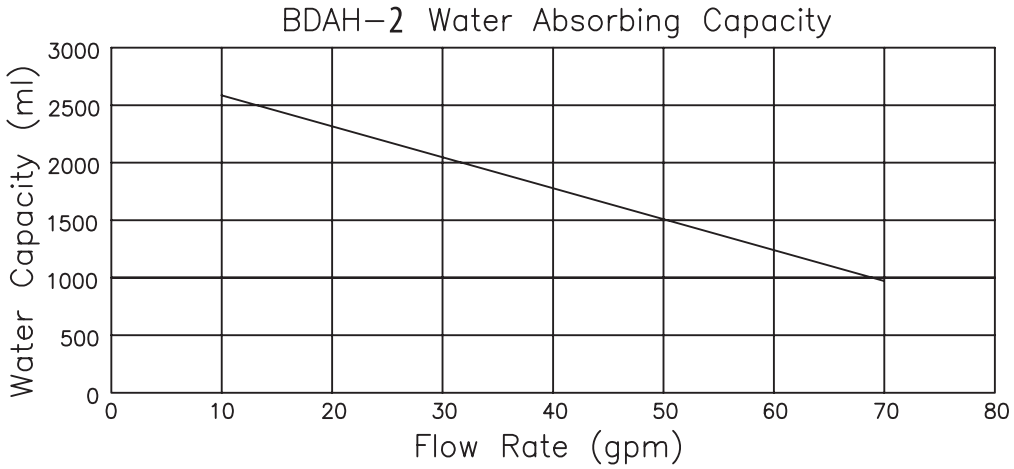


Metric dimensions in ( ).
Dimensions shown are inches [millimeters] for general information and overall envelope size only.
For complete dimensions please contact Schroeder Industries to request a certified print.

In-Line Water Absorbing Diesel Fuel Filter

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





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

Notes

Replacement Element Information

Elements Sold Separately

Pressure Drop Information

Based on Flow Rate and Viscosity

BDA In-Line Water Absorbing Diesel Fuel Filter

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

Filter Series
BDA

BOX 2

Product Configuration
H = Housing

BOX 3

Bag Element Size
1 = Size 1
2 = Size 2

BOX 4

Housing Seal Material
V = Viton®

BOX 5

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

BOX 6

Filter Indicator
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

GeoSeal® High-Flow Particulate Filter GHPF

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

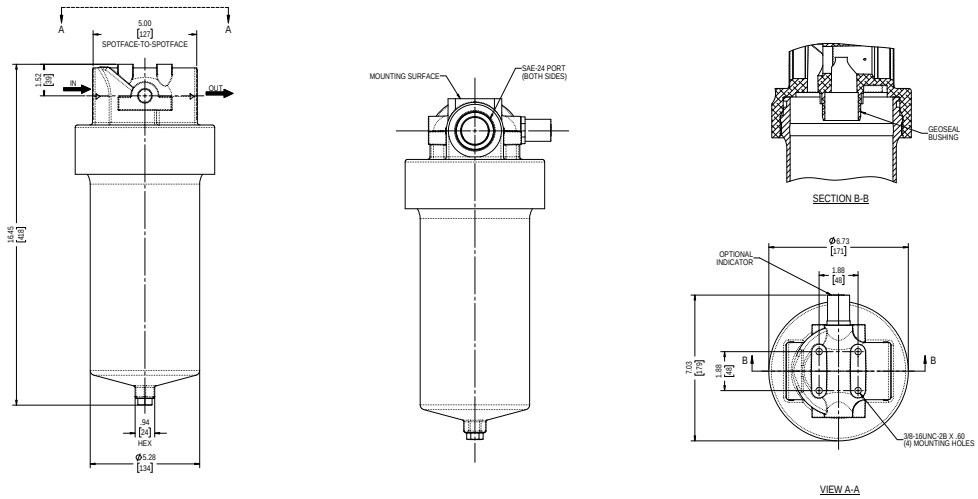

BULK FUEL FILTRATION

100 gpm
380 L/min

150 psi
10.3 bar

Filter Housing Specifications

GHPF GeoSeal® High-Flow Particulate Filter



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 Using APC calibrated per ISO 11171 $\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
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).

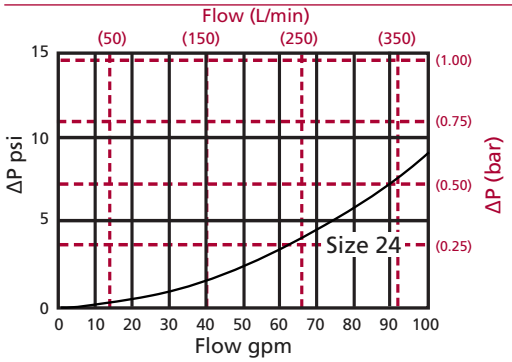
For other Distillate Petroleum, Contact Factory.

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.

$\Delta P_{housing}$

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



$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

C/F = Contact factory.

sp gr = specific gravity

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

Notes

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

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

Solution:

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

$\Delta P_{element}$ = 80 x 0.05 x (37÷37) = 4.0 psi
or
= [303 x (0.05÷54.9) x (3÷3) = 0.28 bar]

ΔP_{total} = 6.0 + 4.0 = 10.0 psi
or
= [0.41 + 0.28 = 0.69 bar]

GHPF GeoSeal® High-Flow Particulate Filter

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 – Filter Series

GHPF

BOX 2 – Element Length & Series

11GG

BOX 3 – Element Media

Z = Excellement® Z-Media® (synthetic)

BOX 4 – Micron Rating

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)

BOX 5 – Element Seal Material

V = Viton®

BOX 6 – Bypass Setting

Omit = 40 psid

BOX 7 – Inlet Port

S24 = SAE-24
P24 = 1.5" NPTF

BOX 8 – Dirt Alarm® Options

Visual	D5 = Visual pop-up w/manual reset

BOX 9 – Indicator Orientation

R = Right Side
L = Left Side

BOX 10 – Options

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.

GeoSeal® High-Flow Coalescing Filter GHCF

Applications


POINT OF USE FUEL DISPENSING


FLEET FILL / BULK FUEL TRANSFER


BULK FUEL UNLOADING


DATA CENTER GENERATOR


BULK TANK KIDNEY LOOP / RECIRCULATION

Features and Benefits

- Versatile diesel fuel coalescing filter suitable for both pressure and suction side applications, including:
  - Large engine primary fuel filtration
  - Bulk fuel dispensing
  - Transfer filtration
  - Tank polishing
- Uses patented GeoSeal® elements
- All-aluminum filter housing is fully compatible with diesel and biodiesel blends
- 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: GHCFCG5VS24D5R

Flow Rating:	For Pressure Installations - Up to 25 gpm (95 L/min) For Suction Installations - Up to 900 gph (Up to 3410 L/hr [57 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:	For Pressure Installations - 40 psi (2.8 bar) For Suction Installations - Blocked Bypass
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
95 L/min
for pressure installations

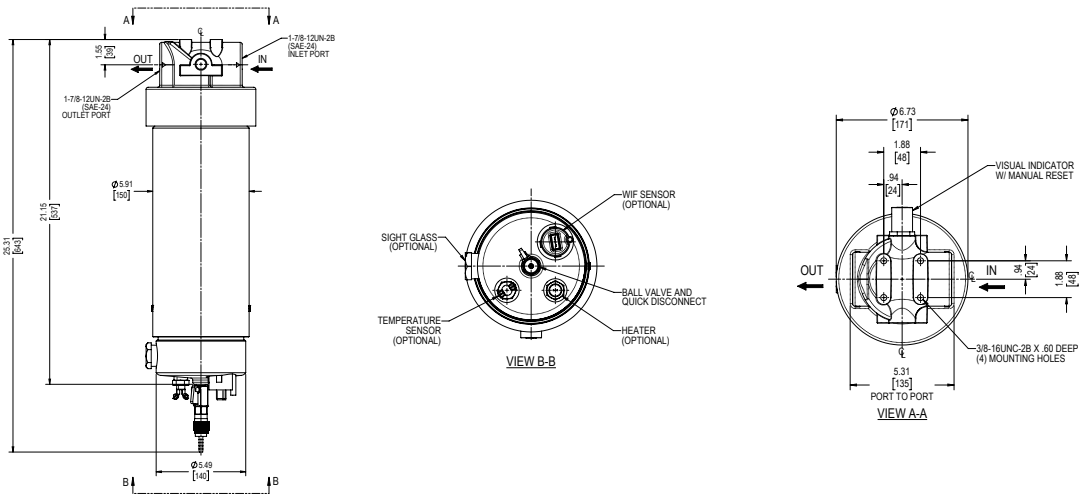
15 gpm
(900 gph)
3410 L/hr
(57 L/min)
for suction installations

150 psi
10.3 bar

ICF BDF BDA GHPF GHCF QCF BDS BDS2 BDS3 BDS4 LVH-F LVH-C BDFC BDFP HDP HDPD BCC

Filter Housing Specifications

GHCF GeoSeal® High-Flow Coalescing Filter



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

Filter Element Selection Coalescing Element Performance Information

Elements Sold Separately

Coalescing Element	Performance	
	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

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

*NOTE: Efficiency based on ULSD15 with 15-19 mN/m IFT (interfacial tension) and 2500 ppm water injection. Discharge water concentration of <200 ppm undissolved water.

Fluid Compatibility

Ultra-Low Sulfur Diesel (ULSD15)
Low Sulfur Diesel (LSD500)
Biodiesel Blends of Up to 20% (B20)
Synthetic (GTL) and Renewable Diesel Fuel (HVO)
Other Light Distillate Petroleum with a Flash Point of >125°F (52°C)

For other fluids, contact factory.

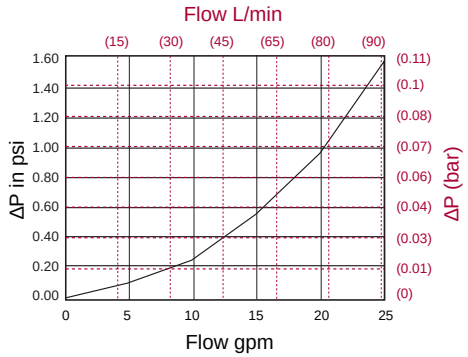
GeoSeal® High-Flow Coalescing Filter

GHCF

**Coalescing Elements Patent-Pending*

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

Notes

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

Exercise: Determine ΔP at 25 gpm (95 L/min) for GHCFCG5V

Solution:

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

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

ΔP_{total}= 1.6 + 2.5 = 4.1 psi [0.28 bar]

Pressure Drop Information Based on Flow Rate and Viscosity

Highlighted product eligible for QuickDelivery

GHCF GeoSeal® High-Flow Coalescing Filter

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

Filter Series
GHCF

BOX 2

Coalescing Filtration
CG5 = C125GZ5V Coalescing Element

BOX 3

Element Seal Material
V = Viton®

BOX 4

Bypass Setting
Omit = 40 psid
X = Blocked Bypass

BOX 5

Inlet Port
S24 = SAE-24
P24 = 1.5" NPTF

BOX 6

Dirt Alarm® Options
D5 = Visual pop-up w/manual reset
Omit = Blocked Indicator Ports (both)

BOX 7

Indicator Orientation
R = Right Side
L = Left Side
Omit = None (Blocked Indicator Ports)

BOX 8

Options
Omit = Sump Sight Glass (standard)
UU = Upstream & Downstream Test Point
T = WIF Sensor Only (-AS16 Active Sensor)
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

*Contact factory for other options not listed in the model code builder

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 when used in pressure installations.

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

QCF

**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

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.


Model no. of filter in photograph is: QCFC5VS24VM

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)

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD


BULK FUEL FILTRATION

70 gpm
265 L/min
100 psi
7 bar

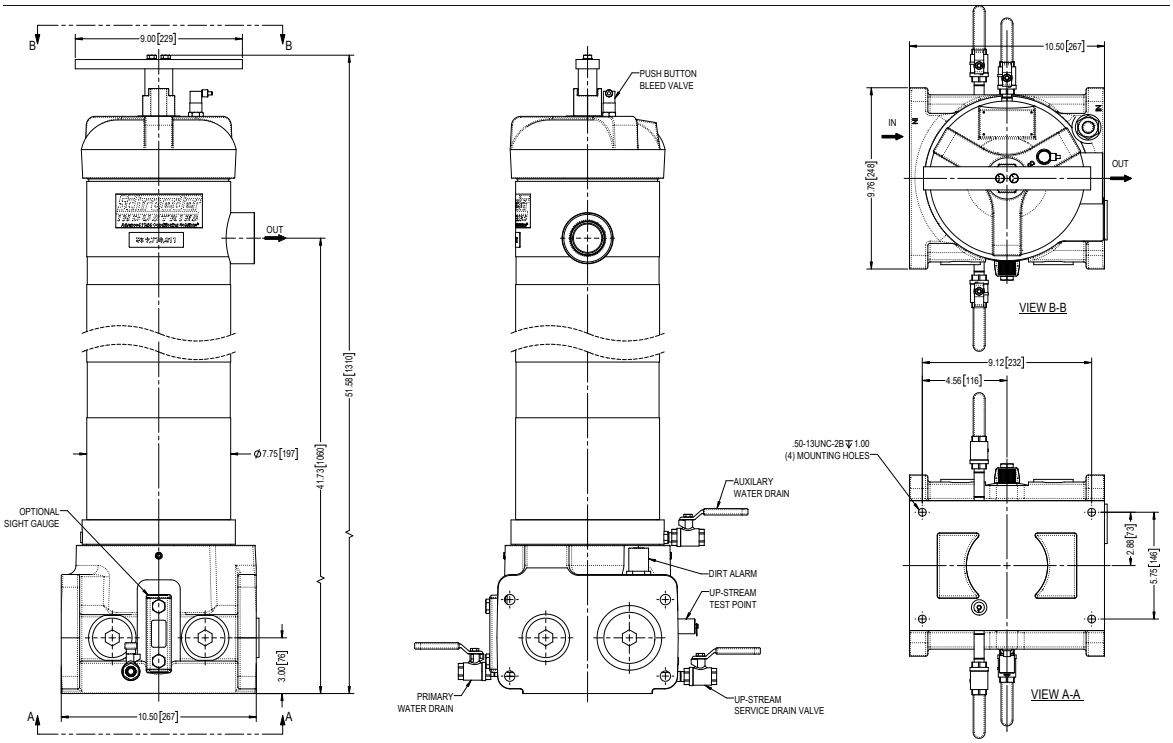
QCF Bulk Diesel Fuel Coalescing Filter

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

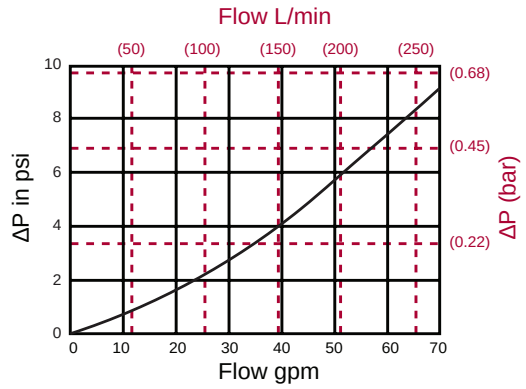
Highlighted product eligible for QuickDelivery

Pressure Drop Information

Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

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

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

Solution:

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

$\Delta P_{element}$ = 70 x 0.17 = 11.9 psi [.82 bar]

ΔP_{total} = 9.2 + 11.9 = 21.1 psi [1.46 bar]

Notes

QCF Bulk Diesel Fuel Coalescing Filter

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	D5		= QCFC5VS24D5

BOX 1 — Filter Series
QCF

BOX 2 — Coalescing Element Series
C = C396Z5V

BOX 3 — Element Media Type
5 = 5 µm Coalescing

BOX 4 — Housing Sealing Material
V = Viton®

BOX 5 — Porting
S24 = -24 (ORB) SAE J1926

BOX 6 — Bypass Indicator Series
D5 = Visual Pop-Up w/ Manual Reset

BOX 7 — 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

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 Selection

Highlighted 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

Bulk Diesel Fuel Skid BDS

**Coalescing Elements Patent-Pending*

70 gpm
265 L/min
100 psi
7 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

- 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

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD


BULK FUEL FILTRATION

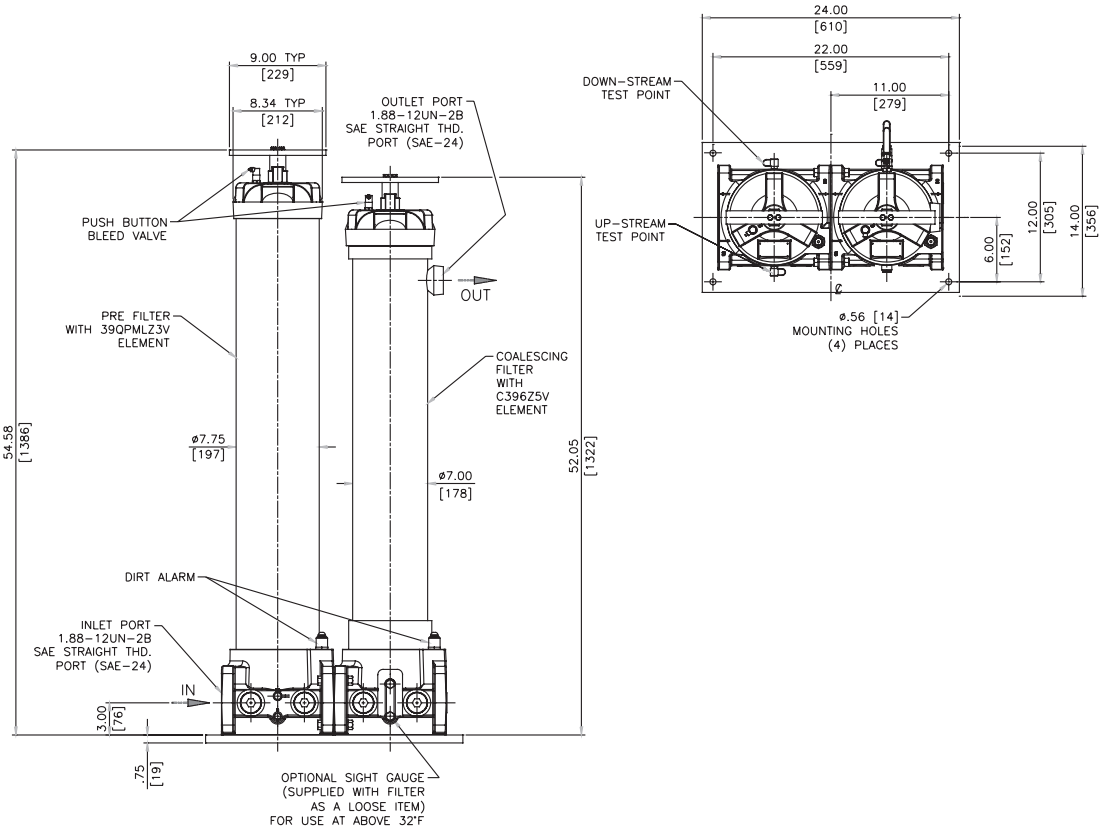
BDS Bulk Diesel Fuel Skid

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)	Particulate Filter 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:	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.

Element Particulate Performance Information

Particulate Elements	DHC	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 β_x (c) ≥ 200	β_x (c) ≥ 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

Element Coalescing Performance Information

Elements Sold with Housing

Highlighted product eligible for QuickDelivery

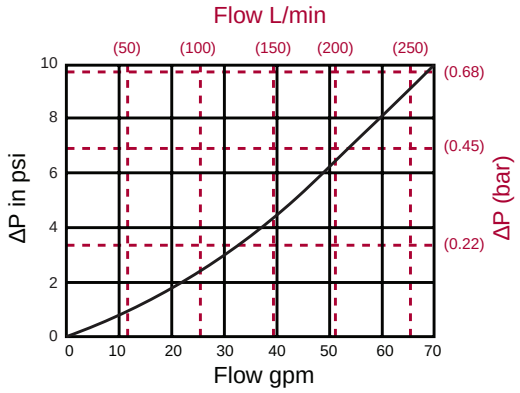
Particulate Element
Flow Direction: Outside In
Element Nominal Dimensions: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

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

Pressure Drop Information Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

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

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

Solution:

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

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

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

ΔP_{total} = 10 + 0.7 + 11.9 = 22.6 psi [1.56 bar]

Notes

BDS Bulk Diesel Fuel Skid

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

Particulate Elements	DHC	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 β_x (c) ≥ 200	β_x (c) ≥ 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

Bulk Diesel Multi-Skid

BDS2

**Coalescing Elements Patent-Pending*

70-140 gpm
248-530 L/min
100 psi
7 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

- 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

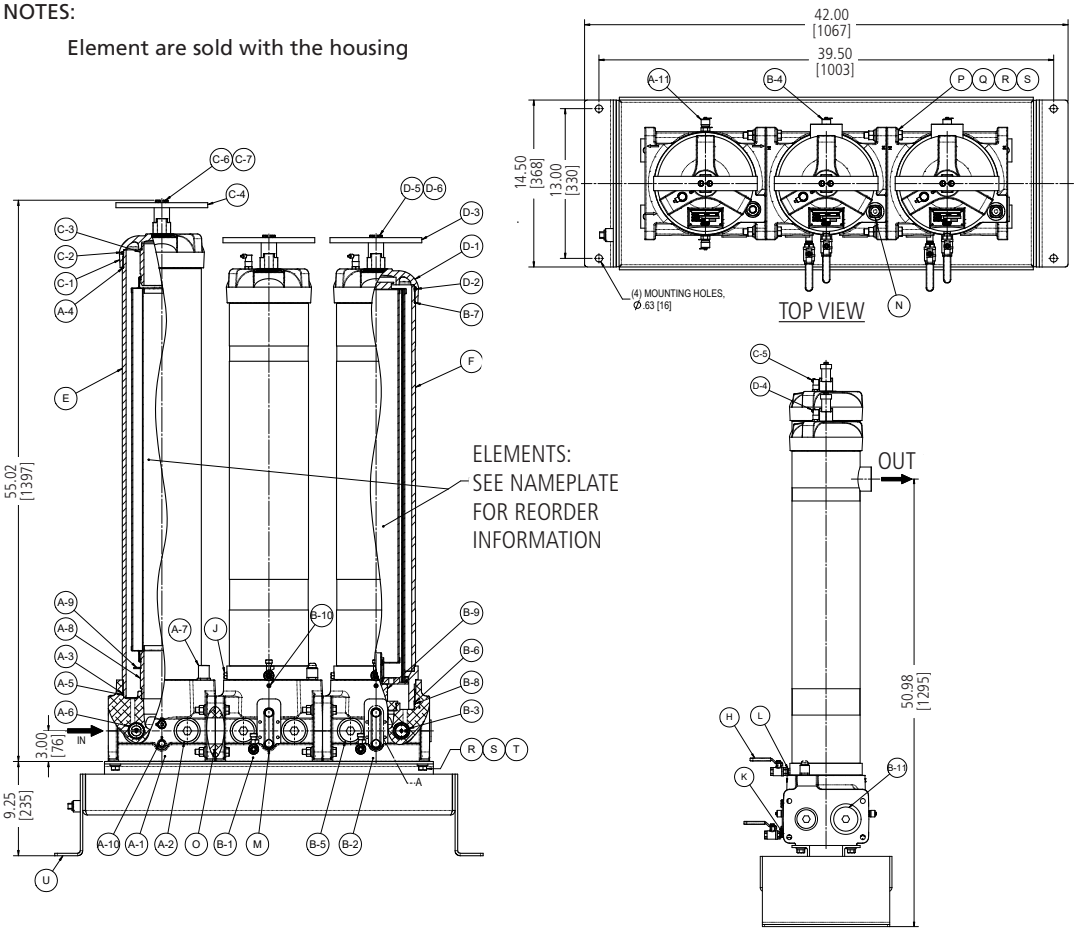
BDS2 Bulk Diesel Multi-Skid

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: (Lower indication options available)	Particulate Filter 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:

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.

Element Particulate Performance Information

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	β_x (c) ≥ 200	β_x (c) ≥ 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

Element Coalescing Performance Information

Elements Sold with Housing

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

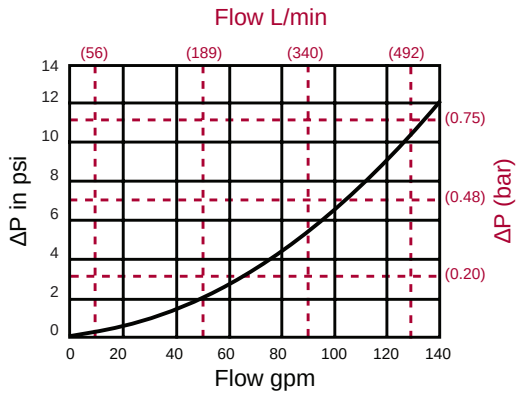
Highlighted product eligible for QuickDelivery BDS2

Pressure Drop Information

Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

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

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

Solution:

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

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

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

ΔP_{total} = 3.0 + 0.7 + 11.9 = 15.6 psi [1.07 bar]

Notes

BDS2 Bulk Diesel Multi-Skid

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

Filter Series
BDS

BOX 2

No. of Coalescing Filters
2 = 140gpm

BOX 3

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

BOX 4

Housing Seal Material
V = Viton®

BOX 5

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

BOX 6

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

NOTES:

Optional AWD for use only >32° F (0°C)

Box 4. Viton® is a registered trademark of DuPont Dow Elastomers

Element Part Number Selection

Highlighted product eligible for QuickDelivery

Particulate Elements	DHC	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 β_x (c) ≥ 200	β_x (c) ≥ 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

Bulk Diesel Multi-Skid BDS3

Applications


POINT OF USE FUEL DISPENSING


FLEET FILL / BULK FUEL TRANSFER

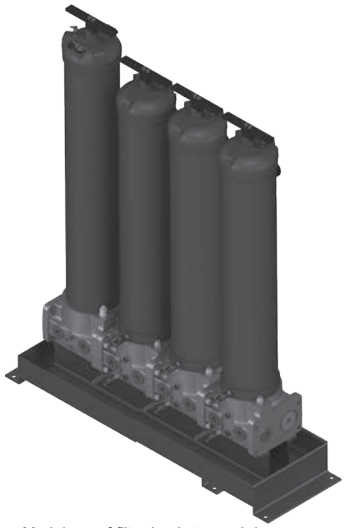

BULK FUEL UNLOADING


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: BDS339QPMLZ3VVM

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD


BULK FUEL FILTRATION

140-210 gpm
530-795 L/min
100 psi
7 bar

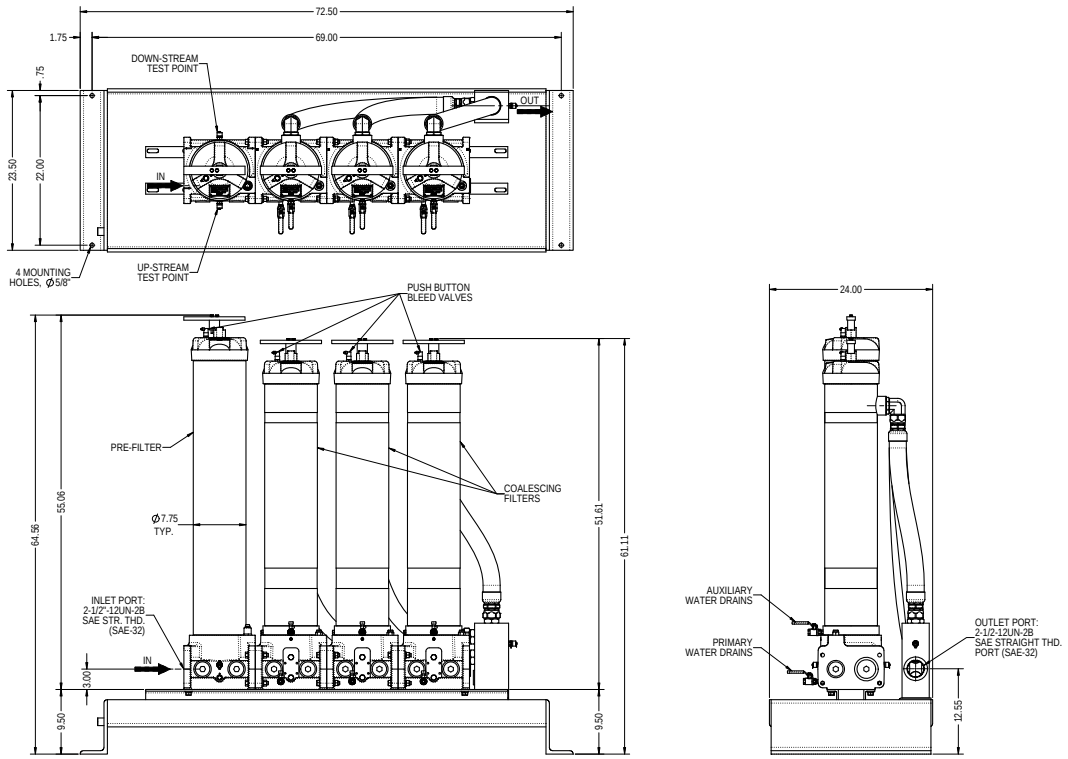
BDS3 Bulk Diesel Multi-Skid

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: (Lower indication options available)	Particulate Filter 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.

Element Particulate Performance Information

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	β_x (c) ≥ 200	β_x (c) ≥ 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

Element Coalescing Performance Information

Elements Sold with Housing

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

Highlighted product eligible for QuickDelivery

Pressure Drop Information

Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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

Note: Contact Factory for deltaP housing data

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

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

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

Solution:

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

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

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

ΔP_{total}= 3.0 + 0.7 + 11.9 = 15.6 psi [1.07 bar]

Notes

BDS3 Bulk Diesel Multi-Skid

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 – Filter Series

Filter Series
BDS

BOX 2 – No. of Coalescing Filters

No. of Coalescing Filters
3 = 210gpm

BOX 3 – Particulate Filter Micron Rating

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

BOX 4 – Housing Seal Material

Housing Seal Material
V = Viton®

BOX 5 – Dirt Alarm®

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

BOX 6 – Sump Options

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

NOTES:

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

Element Part Number Selection

Highlighted product eligible for QuickDelivery

Particulate Elements	DHC	Filtration Ratio per ISO 16889 (Using APC calibrated per ISO 11171) β_x (c) ≥ 200	β_x (c) ≥ 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

Bulk Diesel Multi-Skid BDS4

Applications


POINT OF USE FUEL DISPENSING


FLEET FILL / BULK FUEL TRANSFER

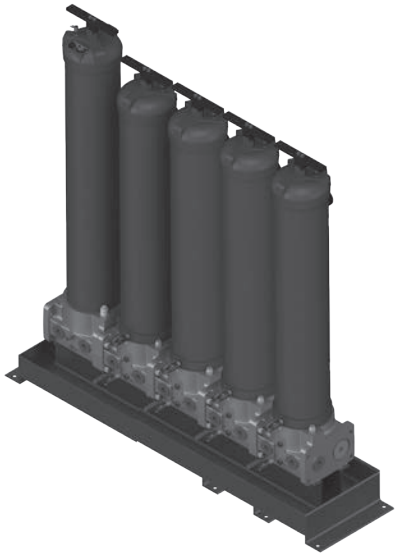

BULK FUEL UNLOADING


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: BDS439QPMLZ3VVM

Markets


INDUSTRIAL


MOBILE VEHICLES


MARINE


MINING TECHNOLOGY


AGRICULTURE


POWER GENERATION


COMMON RAIL INJECTOR SYSTEMS


FLEET


RAILROAD


BULK FUEL FILTRATION

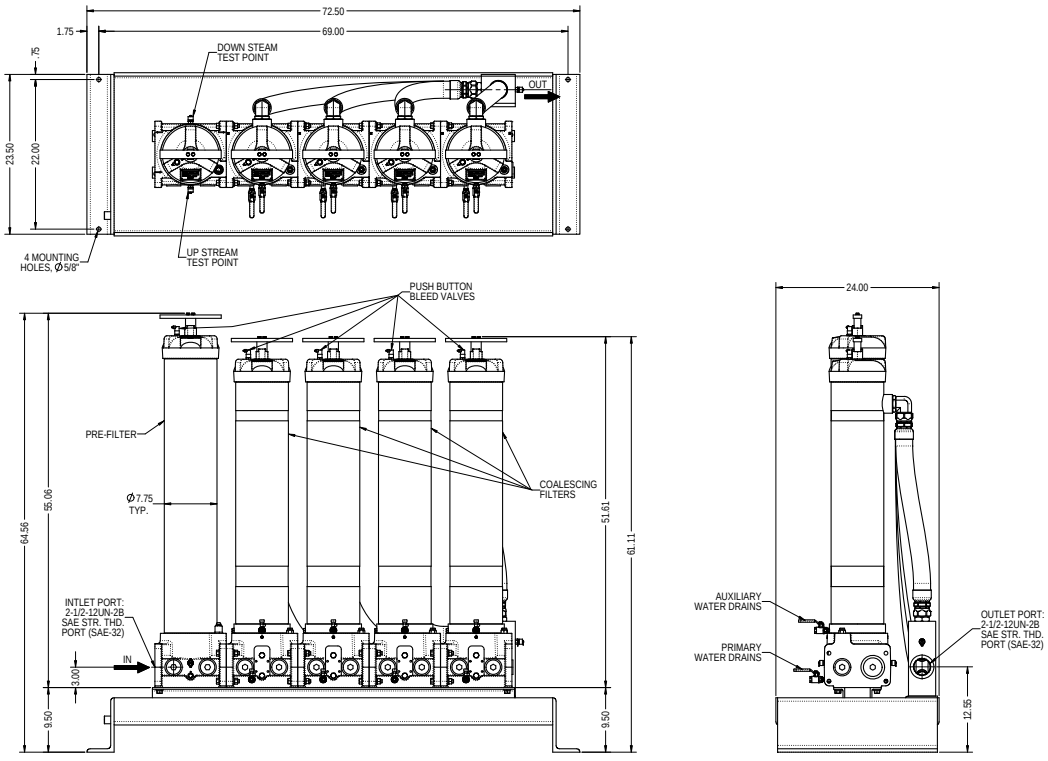
210-280 gpm
795-1060 L/min
100 psi
7 bar

BDS4 Bulk Diesel Multi-Skid

Flow Rating:	From 210 gpm to 280 gpm (795 to 1060 L/min) for ULSD15	
Inlet/Outlet Connection:	-32 (ORB) SAE J1926	
Drain Connection Upper:	1/4" NPT Ball Valve	
Drain Connection Lower:	1/4" NPT Ball Valve	
Max. Operating Pressure:	100 psi (7 bar)	
Min. Yield Pressure:	400 psi (27.6 bar) without sight gauge 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)	Particulate Filter 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.

Element Particulate Performance Information

Filtration Ratio per ISO 16889
Using APC calibrated per ISO 11171

Particulate Elements	DHC	β_x (c) ≥ 200	β_x (c) ≥ 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

Element Coalescing Performance Information

Elements Sold with Housing

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

Highlighted product eligible for QuickDelivery

Pressure Drop Information

Based on Flow Rate and Viscosity

$\Delta P_{housing}$

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

Note: Contact Factory for deltaP housing data

$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x 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).

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

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

Solution:

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

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

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

ΔP_{total} = 3.0 + 0.7 + 11.9 = 15.6 psi [1.07 bar]

Notes

BDS4 Bulk Diesel Multi-Skid

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

Filter Series
BDS

BOX 2

No. of Coalescing Filters
4 = 280gpm

BOX 3

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

BOX 4

Housing Seal Material
V = Viton®

BOX 5

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

BOX 6

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

NOTES:

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

Element Part Number Selection

Highlighted product eligible for QuickDelivery

Particulate Elements	DHC	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171 β_x (c) ≥ 200	β_x (c) ≥ 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

799-3600 L/min

150 psi

10 bar

Standard

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

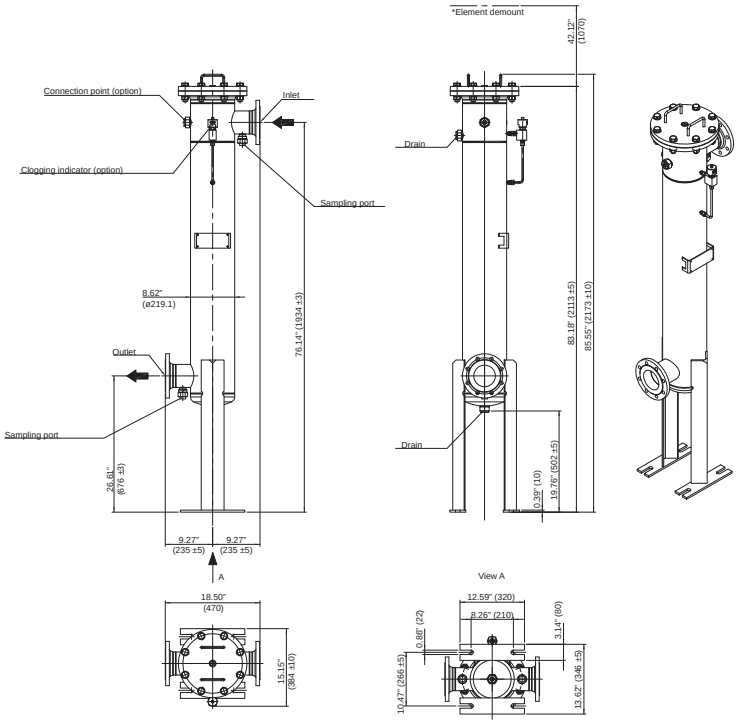

POWER GENERATION

LVHF High Flow | Low Viscosity Housing Filter

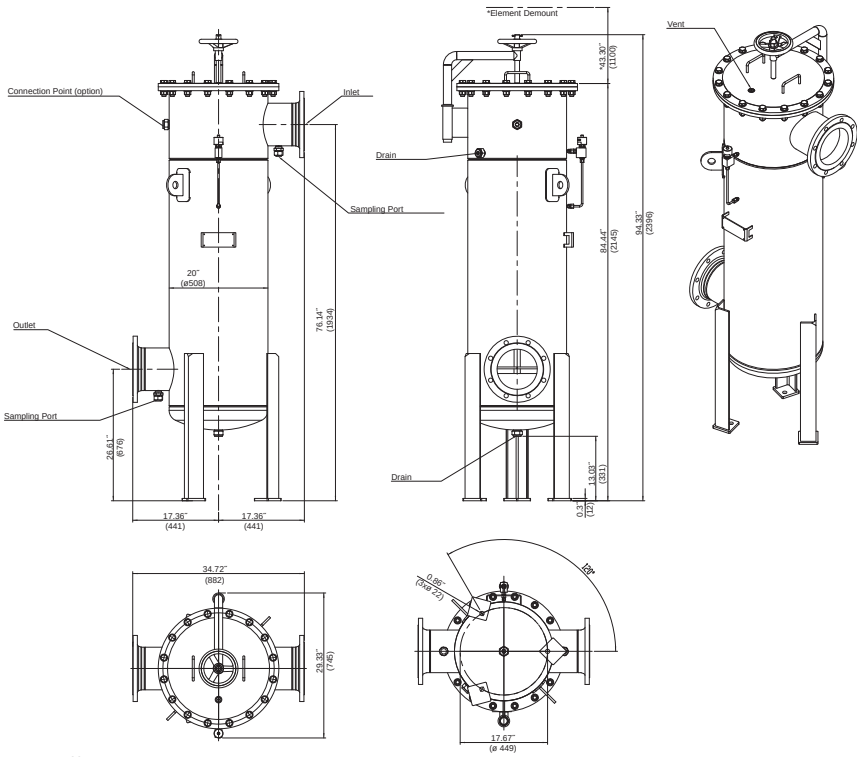
Filter Housing Specifications

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



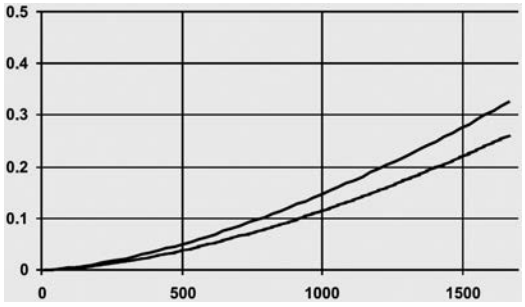
Metric dimensions in ( ).
Dimensions shown are inches (millimeters) for general information and overall envelope size only.
For complete dimensions please contact Schroeder Industries to request a certified print.

High Flow | Low Viscosity Housing Filter LVHF

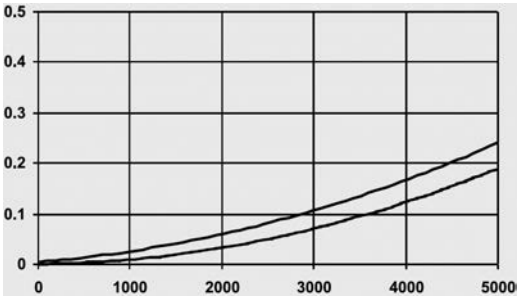
The lower curve applies to diesel at 20°C (the upper curve is for mineral oil with viscosity to 30 cSt for comparison).

Housing Pressure Drop Graphs (Housing ΔP)

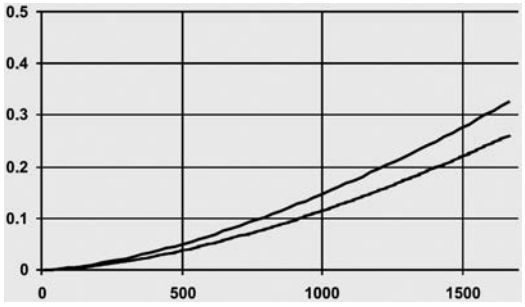
LVH-F-140



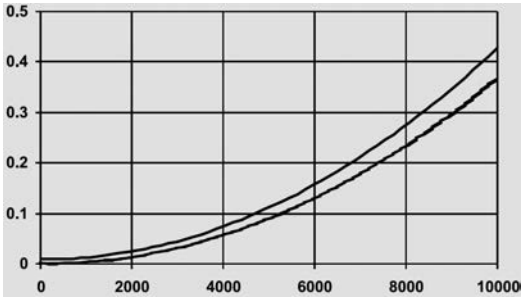
LVH-F-440



LVH-F-340



LVH-F-840



Y-axis: Pressure Drop (bar)

X-axis: Flow Rate (L/min)

Filter Calculation

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.

Filter Element Selection

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

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

* Contact Factory for More Details

LVHF High Flow | Low Viscosity Housing Filter

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

Filter Series
LVH

BOX 2

Functions
F = Filter

BOX 3

Filter Size
1 = 1 filter element
3 = 3 filter elements
4 = 4 filter elements
5 = 5 filter elements
8 = 8 filter elements

BOX 4

Filter Element Length
40 = 40"

BOX 5

Housing Material
E = Stainless Steel
N = Carbon Steel

BOX 6

Mounting
V = Vertical
H = Horizontal

BOX 7

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

BOX 8

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

For flanges not listed, contact factory.

BOX 9

Sealing
F = Viton®

BOX10

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

BOX 11

Available Certification
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

799-1802 L/min

150 psi

10 bar

Standard

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: LVHCD440NVBTFZ

Markets


INDUSTRIAL


BULK FUEL FILTRATION


MARINE


MINING TECHNOLOGY


AGRICULTURE

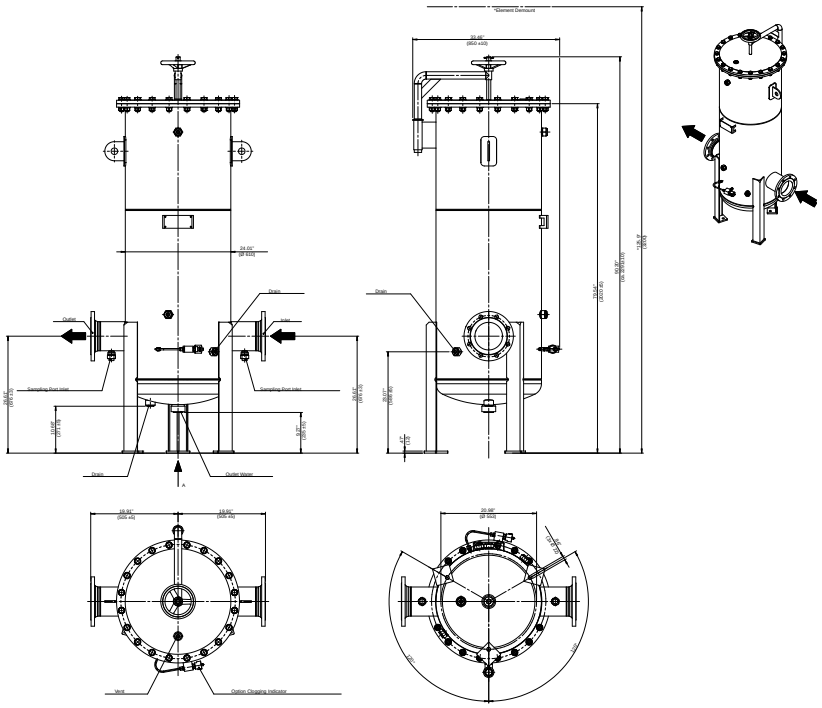

POWER GENERATION

LVHC High Flow | Low Viscosity Housing Coalescer

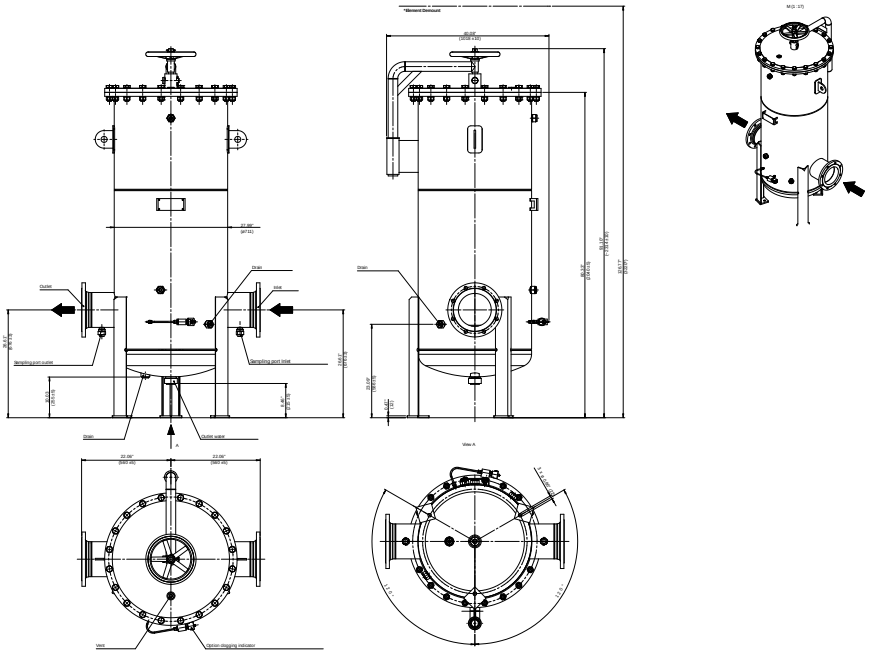
Filter Housing Specifications

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



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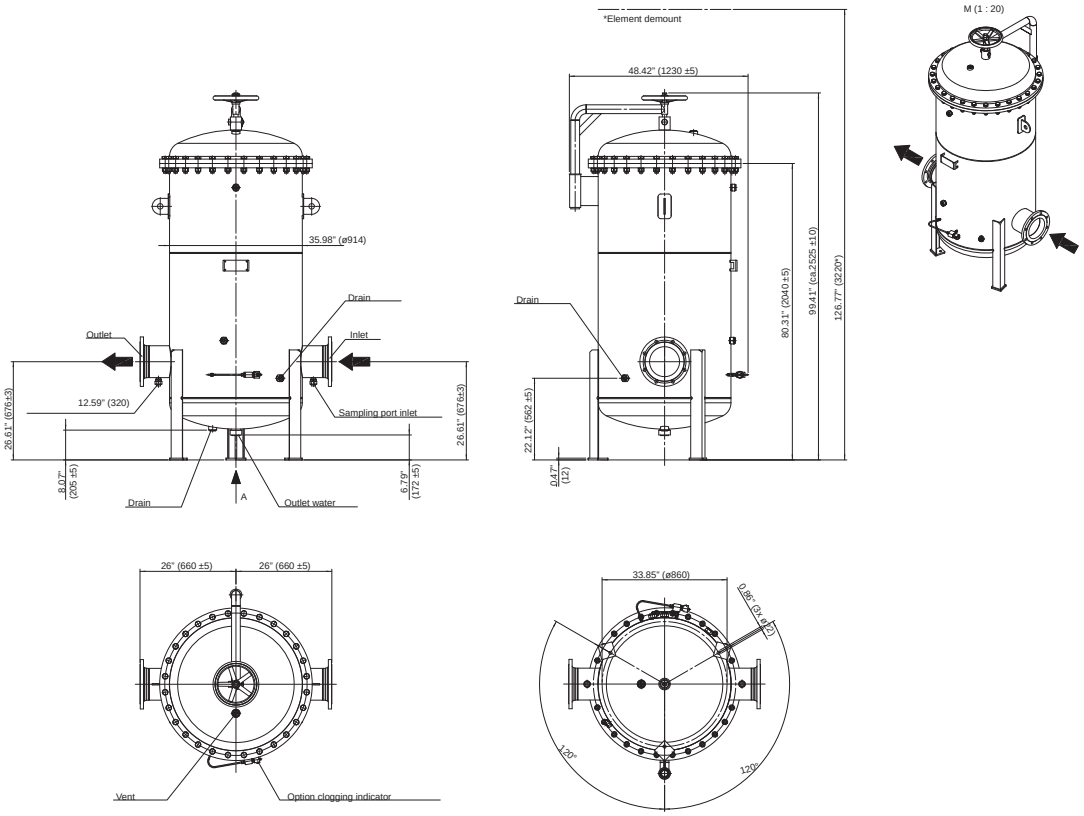
High Flow | Low Viscosity Housing Coalescer LVHC

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.

Filter Calculation

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

Filter Element Selection

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

LVHC High Flow | Low Viscosity Housing Coalescer

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 – Filter Series

LVH

BOX 2 – Functions

CD = Coalescing, Diesel Fuel

BOX 3 – Filter Size & Number of Elements per Housing

4 = 4 coalescing & 3 separator elements
6 = 6 coalescing & 4 separator elements
9 = 9 coalescing & 6 separator elements

BOX 4 – Filter Element Length

40 = 40"

BOX 5 – Housing Material

E = Stainless Steel
N = Carbon Steel

BOX 6 – Mounting

V = Vertical

BOX 7 – Pressure Range

B = 150 psi (10 bar)

BOX 8 – Hydraulic Connection

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

For flanges not listed, contact factory.

BOX 9 – Sealing

F = Viton®

BOX10 – Clogging Indicator

C12 = Differential pressure indicator, electrical
D17 = Differential pressure indicator, visual/electrical (230V)
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D33 = Differential pressure indicator, visual/electrical (PVL2GW.0/ 111-16)
Z = Without clogging indicator

BOX 11 – Available Certification

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