

In-Line Fuel Coalescing Filter

ICF



Model no. of filter in photograph is:
ICFC5VS16PG

Coalescing filtration can be a highly effective method to remove water from diesel fuels. Water is typically introduced into the fuel supply by condensation. Water in a vehicle fuel system can reduce lubricity causing seizure of close tolerance parts and increased wear. Water in fuel storage tanks causes rust and promotes microbial growth. Microbial growth in fuel storage systems begins in free water at the tank bottom and can quickly migrate through the fuel. In warm weather, microbial “blooms” can quickly overwhelm and bypass fuel filters causing contamination to reach the fuel injectors. Higher pressure fuel injector systems have tighter tolerances and require complete water removal to minimize wear related failures. The ICF Fuel Coalescing Filter will protect critical equipment and components.

Features and Benefits

- Included, optional sight glass (for use only >32 deg. F.)
- Three-phase construction for high efficiency, single-pass removal of free water and particulates
- Can be upstream (suction side) or downstream (pressure side) of transfer pumps
- Helps protect expensive, vital engine components against failures caused by water contaminated fuel
- Can separate emulsified or finely dispersed water from fuel
- For use in single-pass fuel dispensing or multi-pass reservoir clean-up and continuous maintenance



INDUSTRIAL



MOBILE
VEHICLES



MARINE



MINING



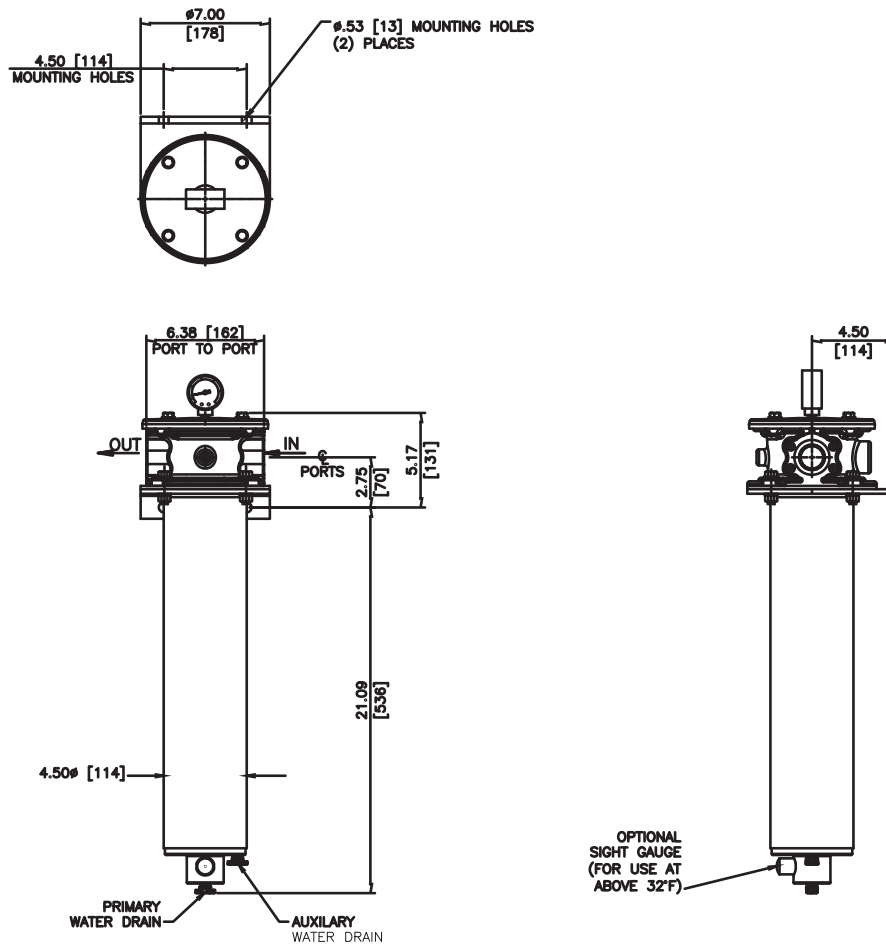
AGRICULTURE

Applications

Flow Rating:	Up to 6 gpm (23 L/min) for ULSD15
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	400 psi (28 bar)
Rated Fatigue Pressure:	90 psi (6 bar), per NFPA T2.6.1-2005
Temp. Range:	-20°F to 165°F (-29°C to 74°C) standard 32°F to 165°F (0°C to 74°C) with included, optional sight glass
Bypass Setting:	Cracking: 15 psi (1 bar)
Porting Head/Cap:	Anodized Aluminum
Element Case:	Nickel Coated Steel
Weight:	19 lbs (8.6 kg)
Element Change Clearance:	20.00" (508 mm)

Filter Housing Specifications

6 gpm
23 L/min
100 psi
7 bar



Element Particulate Performance Information

Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
C184Z5V	2.5	3.0	4.0	4.8	6.3

Element Water Coalescing Performance Information

Element	Pressure Side Coalescing		Suction Side Coalescing	
	Max Flow	Single Pass Efficiency	Max Flow	Single Pass Efficiency
C184Z5V	6 GPM	> 99.5%	CF Contact Factory	> 99.5%

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

Note:
 Based on ULSD15 with
 27 Byenes/CM surface
 tension and 0.25% (2500
 PPM) water injection

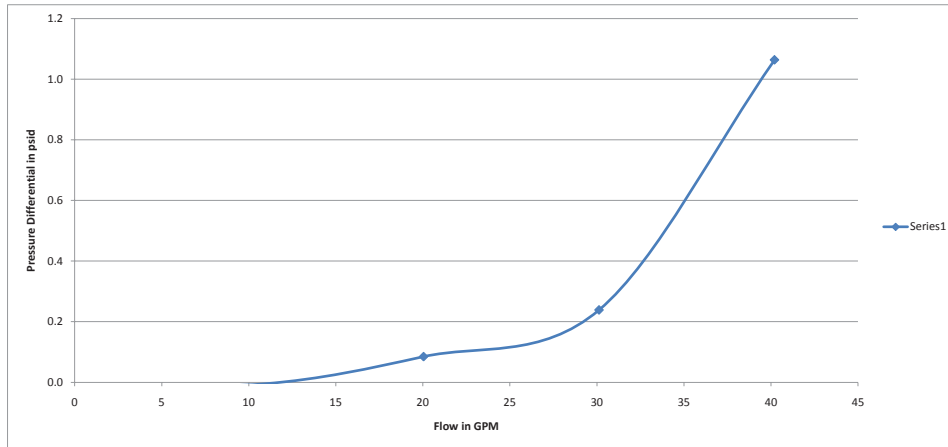
Fuel Oils

- ULSD15 and similar petroleum diesels
- Biodiesel and blends
- Synthetic diesel and blends

Fluid Compatibility

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

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



sp gr = specific gravity

Pressure Drop Information Based on Flow Rate and Viscosity

Notes

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

El. ΔP factors @ 37 SUS (3 cSt).

C184Z5V = 0.17

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

Viscosity factor: Divide viscosity by 150 SUS (32 cSt).

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

Exercise: Determine ΔP at 6 gpm (23 L/min) using 37 SUS (3 cSt) Fluid

Solution:

$\Delta P_{\text{housing}} = 0 \text{ psi} = [0 \text{ bar}]$

$\Delta P_{\text{element}} = 6 \times 0.17 \times (37 \div 150) = 0.3 \text{ psi}$

$\Delta P_{\text{total}} = 0.0 + 0.3 = 0.3 \text{ psi}$

Filter Model Number Selection

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

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

Example: Note: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
ICF	C	5	V	S16	PG		= ICFC5VS16PG

BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Element Series	Element Particulate Media Type	House Sealing Material
ICF	C= C184Z5V	5 = 5 MICRON SYN./COALESCING	V = Viton®
BOX 5	BOX 6	BOX 7	
Porting	Dirt Alarm® Options	Additional Options	
S16 = SAE 16	Omit = None PG = Pressure Gauge	Omit = None (Standard) *For automatic drain option, contact factory.	

NOTES:

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

In-Line Fuel Coalescing Filter

QCF



Model no. of filter in photograph is: QCFCSVS24VM

Coalescing filtration can be a highly effective method to remove water from diesel fuels. Water is typically introduced into the fuel supply by condensation. Water in a vehicle fuel system can reduce lubricity causing seizure of close tolerance parts and increased wear. Water in fuel storage tanks causes rust and promotes microbial growth. Microbial growth in fuel storage systems begins in free water at the tank bottom and can quickly migrate through the fuel. In warm weather, microbial “blooms” can quickly overwhelm and bypass fuel filters causing contamination to reach the fuel injectors. Advances in diesel engine fuel injection systems have been instrumental in complying with future emission standards. Higher pressure fuel produces 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, better engine performance and lower noise. Higher pressure fuel injector systems have tighter tolerances and require complete water removal to minimize wear related failures.

Features and Benefits

- Included, optional sight glass (for use only > 32°F.)
- Three-phase construction for high efficiency, single-pass removal of free water and particulates
- Can be upstream (suction side) or downstream (pressure side) of transfer pumps
- Helps protect expensive, vital engine components against failures caused by water contaminated fuel
- Can separate emulsified or finely dispersed water from fuel
- For use in single-pass fuel dispensing or multi-pass reservoir clean-up and continuous maintenance



INDUSTRIAL



POWER GENERATION



BULK OIL FILTRATION



MINING TECHNOLOGY



AGRICULTURE

Applications

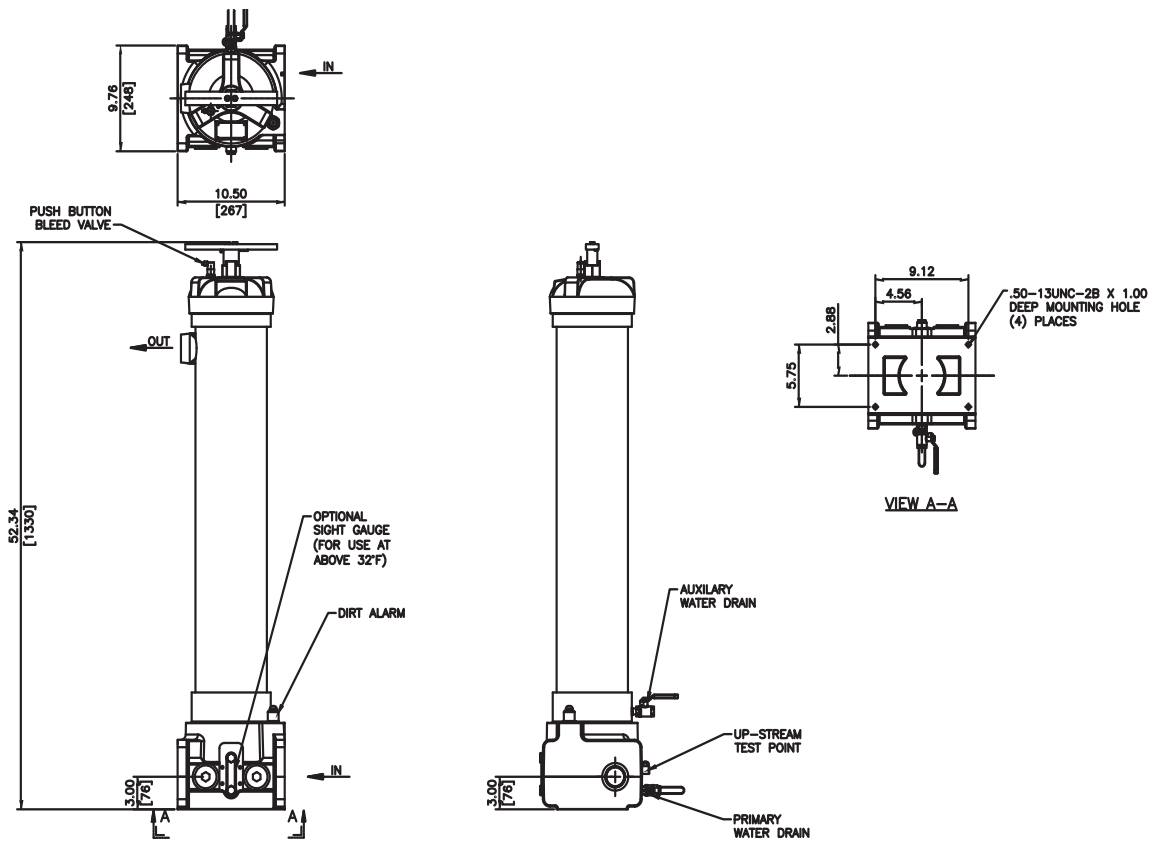
Flow Rating:	Up to 35 gpm (133 L/min) for ULSD15
Max. Operating Pressure:	100 psi (7 bar); 45 psi (3 bar) with water sight gauge
Min. Yield Pressure:	400 PSI (27.6 bar) without sight glass Contact factory for use with sight glass
Rated Fatigue Pressure:	Contact Factory
Temperature range:	-20°F to 165°F (-29°C to 74°C) Standard 32°F to 165°F (0°C to 74°C) with included, optional sight glass
Bypass Setting:	Cracking: 15 psi (1 bar)
Porting Base:	Anodized Aluminum
Element Case:	Nickel Coated Steel
Cap:	Nickel Coated Ductile Iron
Weight:	155 Lbs. (77 kg)
Element Change Clearance:	33.8" (858 mm)

Filter Housing Specifications

35 gpm
133 L/min

100 psi
7bar
Standard

45 psi
3 bar
Sight Glass
Option



Element Particulate Performance Information

Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
C396	2.5	3.0	4.0	4.8	6.3

Element Water Coalescing Performance Information

Element	Pressure Side Coalescing		Suction Side Coalescing	
	Max Flow	Single Pass Efficiency	Max Flow	Single Pass Efficiency
C396	35 GPM	> 99.5%	CF	> 99.5%

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

Note:
 Based on ULSD15 with
 27 Byres/CM surface
 tension and 0.25%
 (2500 PPM) water injection

In-Line Fuel Coalescing Filter

QCF

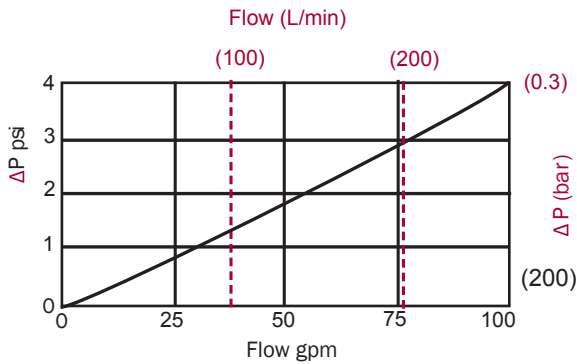
Fuel Oils

- ULSD15 and similar petroleum diesels
- Biodiesel and blends
- Synthetic diesel and blends

Fluid Compatibility

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

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).

C396 = .05

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 35 gpm (133 L/min) for _____ using 37 SUS (3 cSt) Fluid

Solution:

$$\Delta P_{\text{housing}} = 1 \text{ psi [.07 bar]}$$

$$\Delta P_{\text{element}} = 35 \times 0.05 \times (37 \div 150) = 0.4 \text{ psi}$$

$$\Delta P_{\text{total}} = 1.0 + 0.4 = 1.4 \text{ psi}$$

Filter Model Number Selection

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

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	Element Series	Element Media Type	House Sealing Material
QCF	C= C396	5 = 5 MICRON SYN./COALESCING	V = Viton®
BOX 5	BOX 6		BOX 7
Porting	Dirt Alarm® Options		Additional Options
S24 = SAE 24	VM = Visual Pop-Up w/ Manual Reset		Omit = None (Standard)
			*For automatic drain option, contact factory.

NOTES:

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