

# Top-Ported Pressure Filter

# VF60



## Features and Benefits

- Top-ported high pressure filter
- Threaded bowl for easy element servicing
- Offered in pipe, SAE straight thread and ISO 228 porting
- Various dirt alarm options available

**70 gpm**  
**265 L/min**  
**6000 psi**  
**415 bar**

Model No. of filter in photograph is VF609VZ105.



INDUSTRIAL



AUTOMOTIVE  
MANUFACTURING



MACHINE  
TOOL



MINING  
TECHNOLOGY



PULP & PAPER



AGRICULTURE



MOBILE  
VEHICLES

## Applications

**VF60**

LW60

KF30

TF50

KF50

KC50

MKF50

KC65

NOF30-05

NOF50-760

FOF60-03

NMF30

RMF60

Cartridge  
Elements

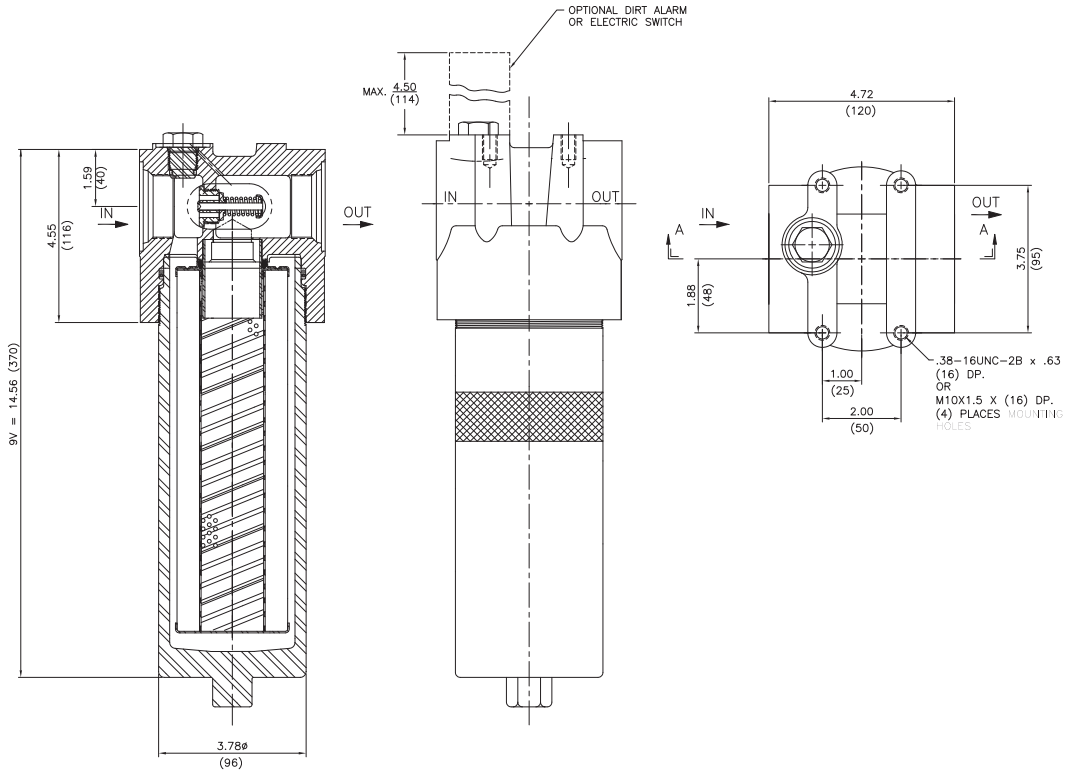
HS60

MHS60

KFH50

Flow Rating:	Up to 70 gpm (265 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	6000 psi (415 bar)
Min. Yield Pressure:	15,500 psi (1070 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	3300 psi (230 bar), per NFPA T2.6.1-R1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 50 psi (3.5 bar) Full Flow: 65 psi (4.5 bar)
Porting Head:	Ductile Iron
Element Case:	Steel
Weight of VF60-9V:	24.0 lbs. (10.9 kg)
Element Change Clearance:	4.0" (103 mm)

## Filter Housing Specifications



Metric dimensions in ( ).

## Element 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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
9V3	6.8	7.5	10.0	N/A	N/A
9V10	15.5	16.2	18.0	N/A	N/A
9VZ1	<1.0	<1.0	<1.0	<4.0	4.2
9VZ3	<1.0	<1.0	<2.0	<4.0	4.8
9VZ5	2.5	3.0	4.0	4.8	6.3
9VZ10	7.4	8.2	10.0	8.0	10.0
9VZ25	18.0	20.0	22.5	19.0	24.0

## Dirt Holding Capacity

Element	DHC (gm)
9V3	25
9V10	12
9VZ1	55
9VZ3	57
9VZ5	62
9VZ10	60
9VZ25	61

Element Collapse Rating: 150 psid (10 bar) for standard elements  
 Flow Direction: Outside In  
 Element Nominal Dimensions: 9V: 2.9" (75 mm) O.D. x 9.5" (240 mm) long

# Top-Ported Pressure Filter

# VF60

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E media (cellulose) and Z-Media® (synthetic)
High Water Content	All Z-Media® (synthetic)
Invert Emulsions	10 and 25 μ Z-Media® (synthetic)
Water Glycols	3, 5, 10 and 25 μ Z-Media® (synthetic)
Phosphate Esters	All Z-Media® (synthetic) with H (EPR) seal designation
Skydrol®	3, 5, 10 and 25 μ Z-Media® (synthetic) with H.5 seal designation (EPR seals and stainless steel wire mesh in element, and light oil coating on housing exterior)

**Fluid Compatibility**

NF30  
NFS30  
YF30  
CFX30  
PLD  
DF40

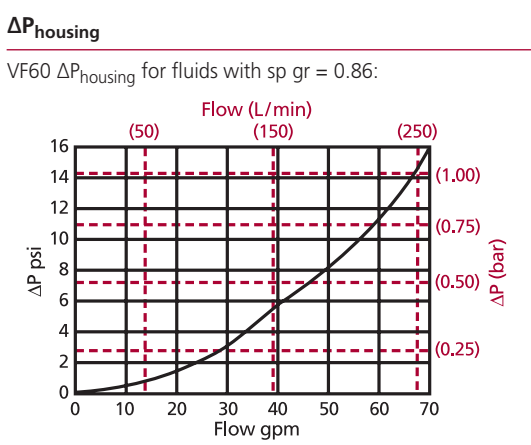
**Element Selection Based on Flow Rate**

CF40  
PF40  
RFS50  
RF60  
CF60  
CTF60

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 50 psi (3.5 bar) bypass valve.						
	Series	Part No.				Contact Factory			
To 6000 psi (415 bar)	Z- Media®	9VZ1	9VZ1			Contact Factory			
		9VZ3	9VZ3						
		9VZ5	9VZ5						
		9VZ10	9VZ10						
		9VZ25	9VZ25						
Flow	gpm	0	10	20	30	40	50	60	70
	(L/min)	0	50	100	150	200	265		

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

Note: Contact factory regarding use of E Media in High Water Content, Invert Emulsion and Water Glycol Applications. For more information, refer to Fluid Compatibility: Fire Resistant Fluids, pages 19 and 20.



**ΔP<sub>element</sub>**

ΔP<sub>element</sub> = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

	9V
9V3	.32
9V10	.24
9VZ1	.34
9VZ3	.21
9VZ5	.13
9VZ10	.11
9VZ25	.06

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

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

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

LW60  
KF30  
TF50  
KF50  
KC50  
MKF50  
KC65

sp gr = specific gravity

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

Notes

**ΔP<sub>filter</sub> = ΔP<sub>housing</sub> + ΔP<sub>element</sub>**

**Exercise:**  
Determine ΔP at 40 gpm (150 L/min) for VF609VZ3SD5 using 200 SUS (44 cSt) fluid.

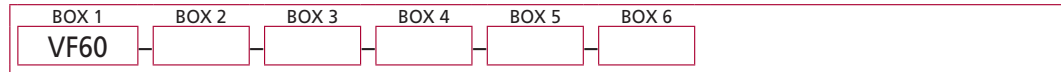
**Solution:**

ΔP<sub>housing</sub> = 6.0 psi [.38 bar]  
 ΔP<sub>element</sub> = 40 x .21 x (200÷150) = 11.2 psi  
 or  
 = [150 x (.21÷54.9) x (44÷32) = .79 bar]  
 ΔP<sub>total</sub> = 6.0 + 11.2 = 17.2 psi  
 or  
 = [.38 + .79 = 1.17 bar]

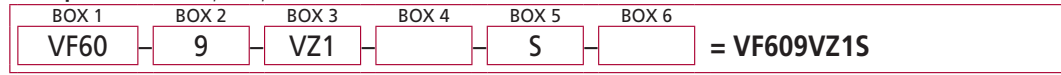
NOF30-05  
NOF50-760  
FOF60-03  
NMF30  
RMF60  
Cartridge Elements  
HS60  
MHS60  
KFH50

## Filter Model Number Selection

### How to Build a Valid Model Number for a Schroeder VF60:



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4
<b>Filter Series</b>	<b>Element Length (in)</b>	<b>Element Size and Media</b>	<b>Seal Material</b>
VF60	9	V3 = V size 3 μ E media (cellulose) V10 = V size 10 μ E media (cellulose) VZ1 = V size 1 μ Excellement® Z-Media® (synthetic) VZ3 = V size 3 μ Excellement® Z-Media® (synthetic) VZ5 = V size 5 μ Excellement® Z-Media® (synthetic) VZ10 = V size 10 μ Excellement® Z-Media® (synthetic) VZ25 = V size 25 μ Excellement® Z-Media® (synthetic) VM150 = V size 150 μ M media (reusable metal)	Omit = Buna N V = Viton® H = EPR

BOX 5	BOX 6
<b>Inlet Port</b>	<b>Dirt Alarm® Options</b>
P = 1¼" NPTF	Omit = None
S = SAE-20	Visual = D5 = Visual pop-up
B = ISO 228 G-1¼"	Visual with Thermal Lockout = D8 = Visual w/ thermal lockout
	Electrical MS5 = Electrical w/ 12 in. 18 gauge 4-conductor cable MS5LC = Low current MS5 MS10 = Electrical w/ DIN connector (male end only) MS10LC = Low current MS10 MS11 = Electrical w/ 12 ft. 4-conductor wire MS12 = Electrical w/ 5 pin Brad Harrison connector (male end only) MS12LC = Low current MS12 MS16 = Electrical w/ weather-packed sealed connector MS16LC = Low current MS16 MS17LC = Electrical w/ 4 pin Brad Harrison male connector
	Electrical with Thermal Lockout MS5T = MS5 (see above) w/ thermal lockout MS5LCT = Low current MS5T MS10T = MS10 (see above) w/ thermal lockout MS10LCT = Low current MS10T MS12T = MS12 (see above) w/ thermal lockout MS12LCT = Low current MS12T MS16T = MS16 (see above) w/ thermal lockout MS16LCT = Low current MS16T MS17LCT = Low current MS17T
	Electrical Visual MS13 = Supplied w/ threaded connector & light MS14 = Supplied w/ 5 pin Brad Harrison connector & light (male end)
	Electrical Visual with Thermal Lockout MS13DCT = MS13 (see above), direct current, w/ thermal lockout MS13DCLCT = Low current MS13DCT MS14DCT = MS14 (see above), direct current, w/ thermal lockout MS14DCLCT = Low current MS14DCT

**NOTES:**

Box 2. Replacement element part numbers are a combination of Boxes 2, 3, and 4.  
 Example: 9VZ1V  
 E media (cellulose) elements are only available with Buna N seals.

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

Box 5. B porting option supplied with metric mounting holes.