

Top-Ported Pressure Filter **RF60**



Features and Benefits

- Top-ported high pressure filter
- Offered in pipe, SAE straight thread, flanged and ISO 228 porting
- Available with non-bypass option with high collapse element
- Standard drain plug in bowl for easy servicing
- Various dirt alarm options available

Model No. of filter in photograph is RF608R10P.



**MOBILE
VEHICLES**

30 gpm
115 L/min
6000 psi
415 bar

NF30

NFS30

YF30

DF40

CF40

CFX30

RF60

RFS50

CF60

VF60

KF30

TF50

KF50

KC50

KFH50

MKF50

KC65

Applications

Flow Rating:	Up to 30 gpm (115 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	6000 psi (415 bar)
Min. Yield Pressure:	18,000 psi (1241 bar)
Rated Fatigue Pressure:	2300 psi (159 bar), per NFPA T2.6.1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Full Flow: 56 psi (3.9 bar) Non-bypassing model has a blocked bypass.
Porting Head:	Steel
Element Case:	Steel
Weight of RF60-8R:	15.75 lbs. (7.2 kg)
Element Change Clearance:	3.0" (75 mm)

Filter Housing Specifications

FOF60-03

NOF30-05

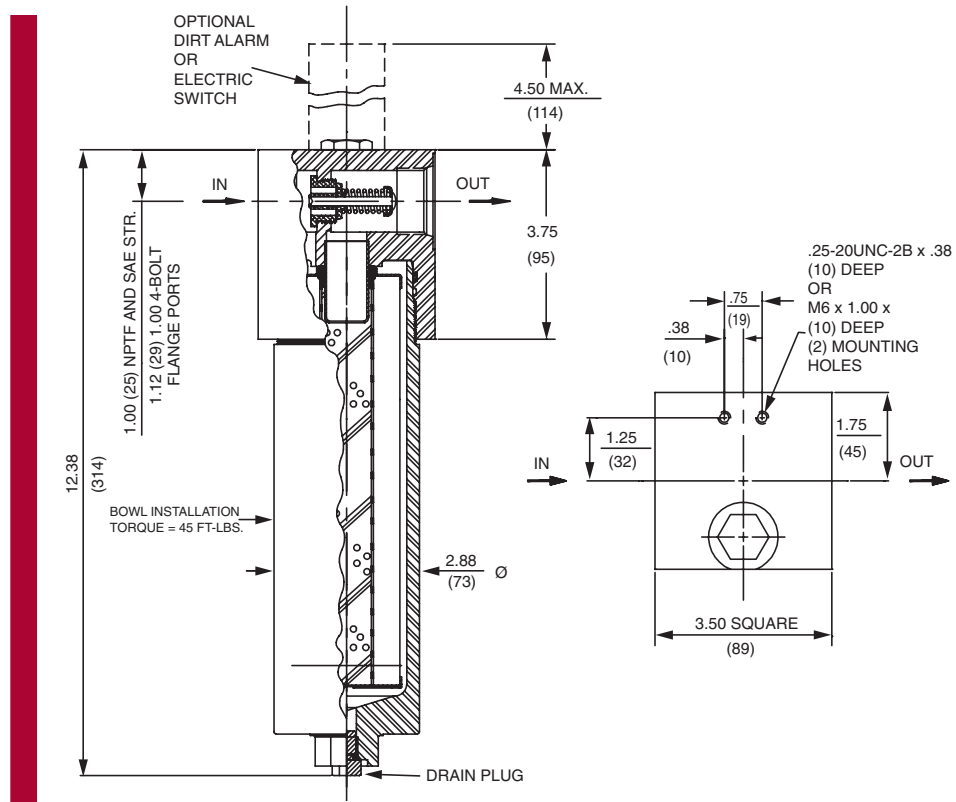
NOF50-760

NMF30

RMF60

Cartridge Elements

RF60 Top-Ported Pressure Filter



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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
8R3	6.8	7.5	10.0	N/A	N/A
8R10	15.5	16.2	18.0	N/A	N/A
8RZ1	<1.0	<1.0	<1.0	<4.0	4.2
8RZ3	<1.0	<1.0	<2.0	<4.0	4.8
8RZ5	2.5	3.0	4.0	4.8	6.3
8RZ10	7.4	8.2	10.0	8.0	10.0
8RZ25	18.0	20.0	22.5	19.0	24.0
8RZX3	<1.0	<1.0	<2.0	4.7	5.8
8RZX10	7.4	8.2	10.0	8.0	9.8

Dirt Holding Capacity

Element	DHC (gm)
8R3	6
8R10	7
8RZ1	33
8RZ3	26
8RZ5	51
8RZ10	29
8RZ25	30
8RZX3	N/A
8RZX10	N/A

Element Collapse Rating: 150 psid (10 bar) for standard elements
3000 psid (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions: 2.18" (55 mm) O.D. x 8.15" (206 mm) long

Top-Ported Pressure Filter **RF60**

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

Fluid Compatibility

NF30
NF530
YF30
DF40

Skydrol is a registered trademark of Solutia Inc.

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.				
	Series	Part No.					
To 6000 psi (415 bar)	E Media	8R3	8R3		See CF60		
		8R10	8R10		See CF60		
	Z Media	8RZ1	8RZ1		See CF60		
		8RZ3	8RZ3		See CF60		
		8RZ5	8RZ5		See CF60		
		8RZ10	8RZ10				
		8RZ25	8RZ25				
Flow	gpm	0	10	15	20	25	30
	(L/min)	0	50	75	100	115	

Element Selection
Based on Flow Rate

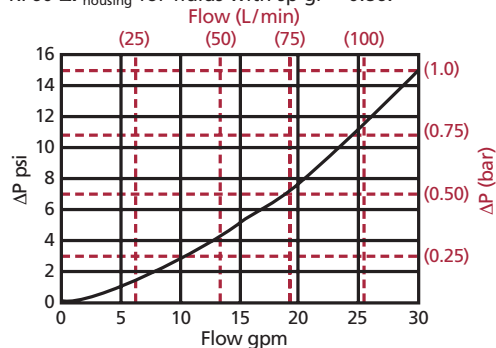
CF40
CFX30
RF60
RFS50
CF60
VF60

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_{housing}

RF60 ΔP_{housing} for fluids with sp gr = 0.86:



sp gr = specific gravity

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

ΔP_{element}

ΔP_{element} = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

8R3	.35
8R10	.30
8RZ1	.87
8RZ3	.43
8RZ5	.39
8RZ10	.36
8RZ25	.11
8RZX3	NA
8RZX10	NA

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

KF30
TF50
KF50
KC50
KFH50
MKF50
KC65

Notes

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

Exercise:

Determine ΔP at 15 gpm (57 L/min) for RF608R10SD5 using 200 SUS (44 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 5.0 \text{ psi } [.35 \text{ bar}]$$

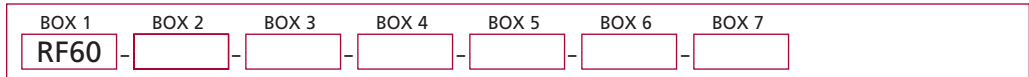
$$\begin{aligned} \Delta P_{\text{element}} &= 15 \times .30 \times (200 \div 150) = 6.0 \text{ psi} \\ &\text{or} \\ &= [57 \times (.30 \div 54.9) \times (44 \div 32)] = .41 \text{ bar} \end{aligned}$$

$$\begin{aligned} \Delta P_{\text{total}} &= 5.0 + 6.0 = 11.0 \text{ psi} \\ &\text{or} \\ &= [.38 + .41] = .79 \text{ bar} \end{aligned}$$

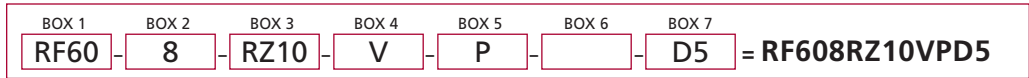
FOF60-03
NOF30-05
NOF50-760
NMF30
RMF60
Cartridge Elements

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder RF60:



Example: NOTE: Only box 6 may contain more than one option



BOX 1	BOX 2	BOX 3	BOX 4
Filter Series RF60 RFN60 <small>(Non-bypassing: requires ZX high collapse elements)</small>	Element Length (in) 8	Element Size and Media R3 = R size 3 μ E media (cellulose) R10 = R size 10 μ E media (cellulose) RZ1 = R size 1 μ Excellement® media (synthetic) RZ3 = R size 3 μ Excellement media (synthetic) RZ5 = R size 5 μ Excellement media (synthetic) RZ10 = R size 10 μ Excellement media (synthetic) RZ25 = R size 25 μ Excellement media (synthetic) RZX3 = R size 3 μ Excellement Z media (high collapse center tube) RZX10 = R size 10 μ Excellement Z media (high collapse center tube)	Seal Material Omit = Buna N H = EPR V = Viton®

BOX 5	BOX 6	BOX 7
Inlet Port P = 1" NPTF S = SAE-16 F = 1" SAE 4-bolt flange Code 62 B = ISO 228 G-1"	Options Omit = None X = Blocked bypass 50 = 50 psi bypass setting L = Two ¼" NPTF inlet and outlet female test ports U = Schroeder Check® ¼"-20 UNF Test Point installation in head (upstream)	Dirt Alarm® Options Omit = None Visual Visual with Thermal Lockout Electrical Electrical with Thermal Lockout Electrical Visual Electrical Visual with Thermal Lockout
		Omit = None D5 = Visual pop-up D8 = Visual w/ thermal lockout 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 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 MS13 = Supplied w/ threaded connector & light MS14 = Supplied w/ 5 pin Brad Harrison connector & light (male end) 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: 8RZ1V
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.
- Box 7. Standard indicator setting for non-bypassing model is 50 psi unless otherwise noted.