

# High-Pressure Sandwich Filter

# FOF60-03



## Features and Benefits

- Sandwich filter configured for D03 subplate pattern
- Withstands high pressure surges, high static pressure loads
- 3000 psi collapse elements

Model No. of filter in photograph is FOF601FZX303D5.



INDUSTRIAL



AUTOMOTIVE  
MANUFACTURING



MACHINE  
TOOL



MINING  
TECHNOLOGY



MOBILE  
VEHICLES



PULP & PAPER

**12 gpm**  
**45 L/min**  
**6000 psi**  
**415 bar**

NF30  
NFS30  
YF30  
CFX30  
PLD  
DF40  
CF40  
PF40  
RFS50  
RF60  
CF60  
CTF60

## Applications

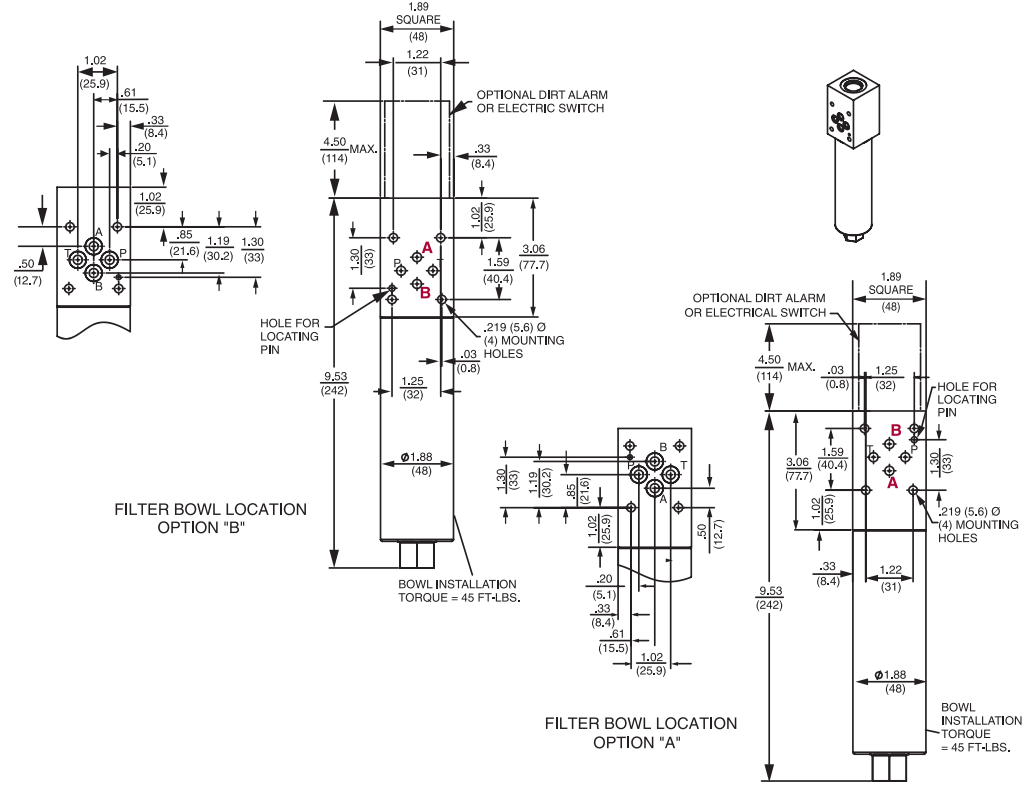
VF60  
LW60  
KF30  
TF50  
KF50  
KC50  
MKF50  
KC65  
NOF30-05  
NOF50-760

**FOF60-03**

Flow Rating:	Up to 12 gpm (45 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	6000 psi (415 bar)
Min. Yield Pressure:	26,000 psi (1790 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	4000 psi (275 bar), per NFPA T2.6.1
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Non-Bypass Model:	Available with high collapse elements
Porting Head:	Steel
Element Case:	Steel
Weight:	7.3 lbs. (3.3 kg)
Element Change Clearance:	4.50" (115 mm)

## Filter Housing Specifications

NMF30  
RMF60  
Cartridge Elements  
HS60  
MHS60  
KFH50



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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
FZX3	<1.0	<1.0	<2.0	4.7	5.8
FZX10	7.4	8.2	10.0	8.0	9.8

## Dirt Holding Capacity

Element	DHC (gm)
FZX3	3*
FZX10	5.1

Element Collapse Rating: 3000 psid (210 bar) for high collapse (ZX) versions  
 Flow Direction: Outside In  
 Element Nominal Dimensions: 1.25" (30 mm) O.D. x 3.25" (85 mm) long

\*Based on 100 psi terminal pressure

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# FOF60-03

## Type Fluid    Appropriate Schroeder Media

Petroleum Based Fluids	All Z-Media® (synthetic)
High Water Content	3 and 10 μ Z-Media® (synthetic)

## Fluid Compatibility

NF30  
NFS30  
YF30  
CFX30

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid.			
	Series	Part No.				
To 6000 psi (415 bar)	Z-Media®	FZX3	FZX3			
		FZX10	FZX10			
Flow	gpm	0			12	
	(L/min)	0	20	40	45	

## Element Selection Based on Flow Rate

PLD  
DF40  
CF40  
PF40  
RFS50  
RF60

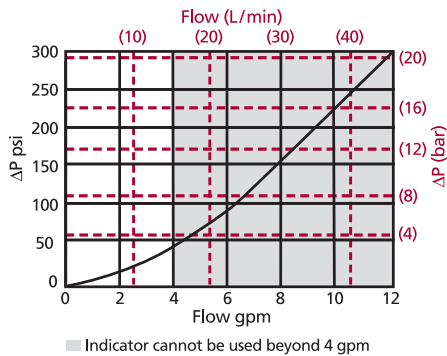
Shown above are the elements most commonly used in this housing.

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.

CF60  
CTF60  
VF60

## ΔP<sub>housing</sub>

FOF60-03 ΔP<sub>housing</sub> for fluids with sp gr = 0.86:



## ΔP<sub>element</sub>

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

El. ΔP factors @ 150 SUS (32 cSt):

FZX3	6.06
FZX10	4.45

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

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

### Exercise:

Determine ΔP at 4 gpm (19 L/min) for FOF601FZX1003 using 200 SUS (44 cSt) fluid.

### Solution:

$$\begin{aligned} \Delta P_{\text{housing}} &= 40.0 \text{ psi [2.75 bar]} \\ \Delta P_{\text{element}} &= 5 \times 4.45 \times (200 \div 150) = 29.7 \text{ psi} \\ &\text{or} \\ &= [19 \times (4.45 \div 54.9) \times (44 \div 32)] = 2.12 \text{ bar} \\ \Delta P_{\text{total}} &= 40.0 + 29.7 = 69.7 \text{ psi} \\ &\text{or} \\ &= [2.75 + 2.12 = 4.87 \text{ bar}] \end{aligned}$$

**FOF60-03**

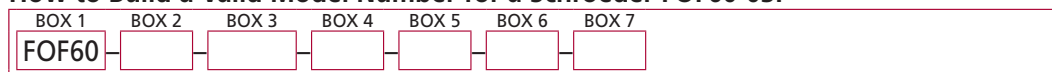
NMF30  
RMF60

Cartridge Elements

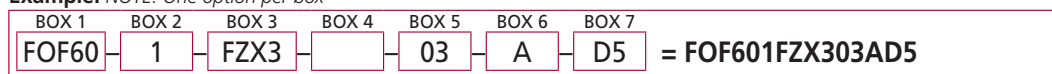
HS60  
MHS60  
KFH50

## Filter Model Number Selection

### How to Build a Valid Model Number for a Schroeder FOF60-03:



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
<b>Filter Series</b>	<b>Number of Elements</b>	<b>Element Part Number</b>	<b>Seal Material</b>	<b>Porting</b>
FOF60	1	FZX3 = F size 3 μ high collapse media FZX10 = F size 10 μ high collapse media	Omit = Buna N V = Viton®	03 = D03 subplate pattern

BOX 6	BOX 7
<b>Filter Bowl Location</b>	<b>Dirt Alarm® Options</b>
A = Bowl adjacent to Port "A"	Omit = None
B = Bowl adjacent to Port "B"	Visual = D5 = Visual pop-up
(Refer to drawing on page 130.)	Visual with Thermal Lockout = D8 = Visual w/ thermal lockout
	Electrical
	MS5 = Electrical w/ 12 in. 18 gauge 4-conductor cable
	MS5LC = Low current MS
	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 3. Replacement element part numbers are identical to contents of Boxes 3 and 4.

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

Box 7. Dirt Alarm® cannot be used beyond 4 gpm. Filters ordered without a Dirt Alarm do not include a machined indicator port. Therefore, one cannot be added at a later date.