High-Pressure Sandwich Filter   FOF60-30

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 FOF601FZX303BD5.

12 gpm
45 L/min
6000 psi
415 bar

Filter Housing Specifications

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: Element Case:	Steel Steel
Weight:	7.3 lbs. (3.3 kg)
Element Change Clearance:	4.50" (115 mm)

Fluid Compatibility

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

FOF60-30   High-Pressure Sandwich Filter
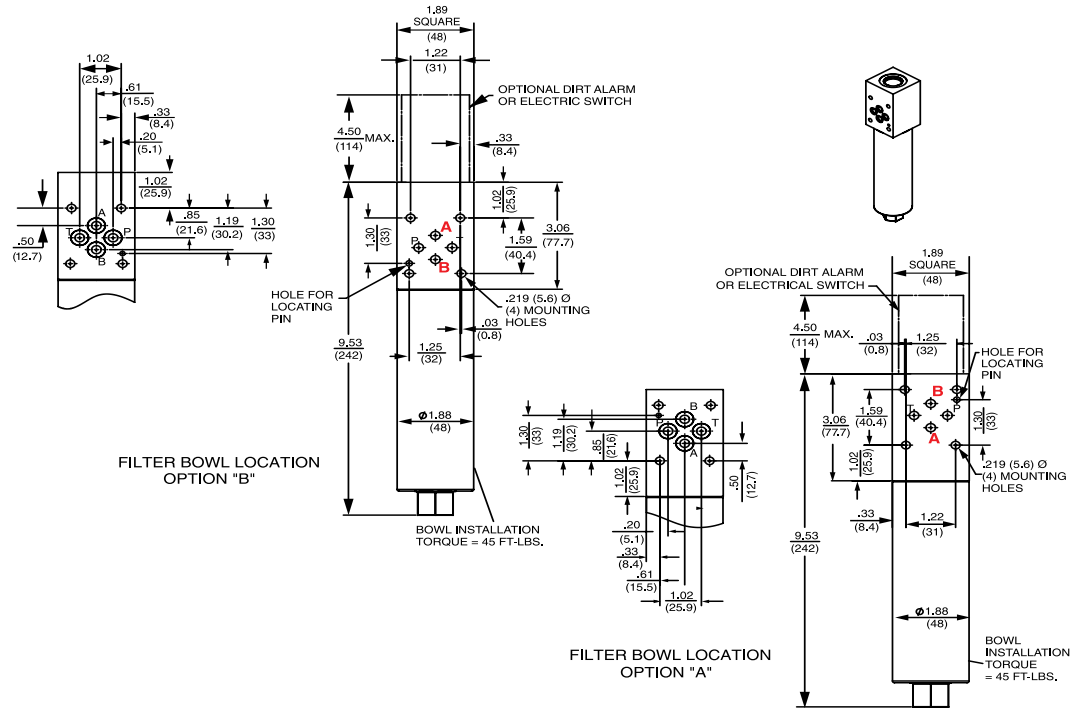
Metric dimensions in ( ).
Dimensions shown are inches (millimeters) for general information and overall envelope size only.
For complete dimensions please contact Schroeder Industries to request a certified print.

Element Performance Information & Dirt Holding Capacity

	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
Element	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x^{(c)} \geq 200$	$\beta_x^{(c)} \geq 1000$
FZX3	<1.0	<1.0	<2.0	4.7	5.8
FZX10	7.4	8.2	10.0	8.0	9.8

Element	DHC (gm)
FZX3	3*
FZX10	5.1

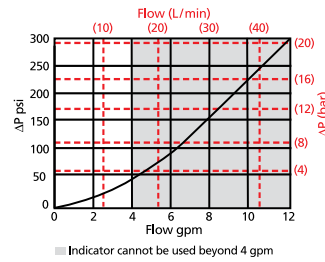Element Collapse Rating: 3000 psid (210 bar) for high collapse (ZX) versions

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

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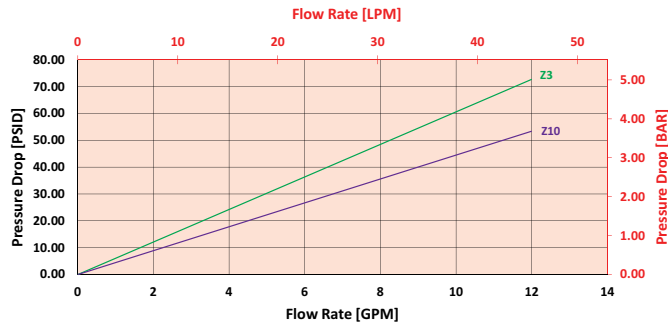Information**
**Based on
Flow Rate
and Viscosity**

$\triangle$**P**$_{housing}$

FOF60-03 $\triangle$P$_{housing}$ for fluids with sp gr (specific gravity) = 0.86:

Flow (L/min)

Indicator cannot be used beyond 4 gpm

$\triangle$**P**$_{element}$

FXZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)

Flow Rate [LPM]

Z3

Z10

Flow Rate [GPM]

$$\triangle\textbf{P}_{\textbf{filter}} = \triangle\textbf{P}_{\textbf{housing}} + (\triangle\textbf{P}_{\textbf{element}} * V_f)$$

Exercise:

Determine $\triangle$**P**$_{filter}$ at 5 gpm (19 L/min) for FOF601FZX1003BD5 using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine $\triangle$**P**$_{housing}$ at 5 gpm. In this case, $\triangle$**P**$_{housing}$ is 60 psi (4.1 bar) on the graph for the FOF60 housing.

Use the element pressure curve to determine $\triangle$**P**$_{element}$ at 5 gpm. In this case, $\triangle$**P**$_{element}$ is 22 psi (1.5 bar) according to the graph for the FZX10 element.

Because the viscosity in this sample is 160 SUS (34 cSt), we determine the **Viscosity Factor (V_f)** by dividing the **Operating Fluid Viscosity** with the **Standard Viscosity** of 150 SUS (32 cSt). To best determine your Operating Fluid Viscosity, please reference the chart in Appendix D.

Finally, the overall filter pressure differential, $\triangle$**P**$_{filter}$, is calculated by adding $\triangle$**P**$_{housing}$ with the true element pressure differential, ($\triangle$**P**$_{element}$*V_f). The $\triangle$**P**$_{element}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

$\triangle$**P**$_{housing}$ = 60 psi [4.1 bar] | $\triangle$**P**$_{element}$ = 22 psi [1.5 bar]

V_f = 160 SUS (34 cSt) / 150 SUS (32 cSt) = 1.1

$\triangle$**P**$_{filter}$ = 60 psi + (22 psi * 1.1) = 64.2 psi

   OR

$\triangle$**P**$_{filter}$ = 4.1 bar + (1.5 bar * 1.1) = 5.8 bar

High-Pressure Sandwich Filter

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
FOF60						
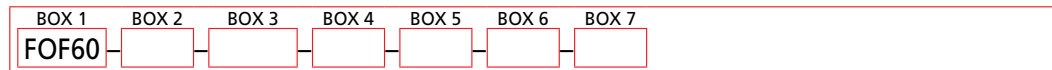
Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	
FOF60	1	FZX3		03	A	D5	= FOF601FZX303AD5
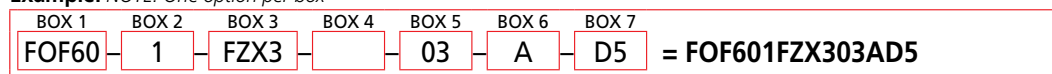
BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	**Number of Elements**	**Element Part Number**	**Seal Material**	**Porting**
FOF60	1	FZX3 = F size 3 µ high collapse media FZX10 = F size 10 µ high collapse media	Omit = Buna N V = Viton®	03 = D03 subplate pattern

BOX 6	BOX 7	
Filter Bowl Location	**Dirt Alarm® Options**	
A = Bowl adjacent to Port "A" B = Bowl adjacent to Port "B" (Refer to drawing on page 140.)	None	Omit = None
	Visual	D5 = Visual pop-up
	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.