

High-Pressure Sandwich Filter

NOF30-05



Features and Benefits

- Sandwich filter configured for D05 subplate
- Withstands high pressure surges, high static pressure loads
- 3000 psi collapse elements

Model No. of filter in photograph is NOF301NNZX305D5.

12 gpm
45 L/min
3000 psi
210 bar

NF30
NFS30
YF30
CFX30
PLD
CF40
DF40
PF40
RFS50
RF60
CF60
CTF60
VF60
LW60
KF30
KF50
TF50
KC50

Flow Rating:	Up to 12 gpm (45 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	3000 psi (210 bar)
Min. Yield Pressure:	10,000 psi (690 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	Contact Factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	High collapse elements are standard
Porting Base & Cap:	Aluminum
Element Case:	Aluminum
Weight of NOF30-1NN:	6.6 lbs. (3.0 kg)
Element Change Clearance:	4.50" (115 mm)

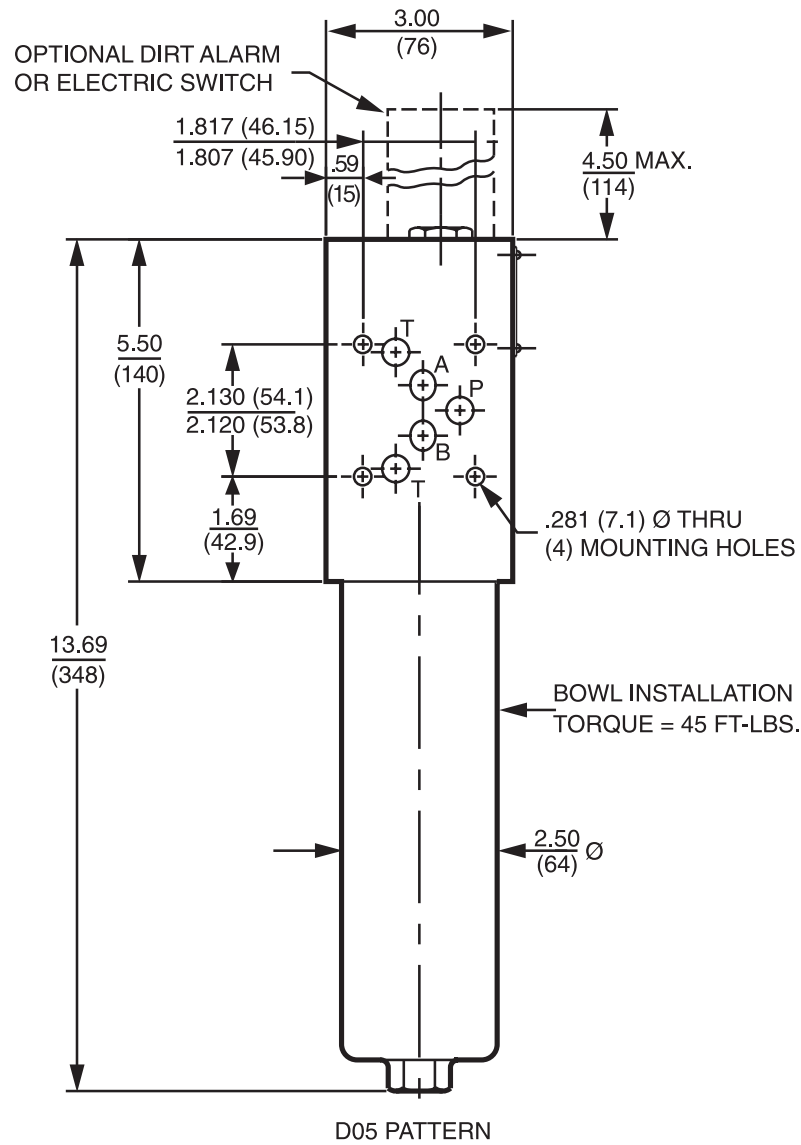
Filter Housing Specifications

MKF50
MKC50
KC65
HS60
MHS60
KFH50
LC60
LC35
LC50

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All Z-Media® (synthetic)
High Water Content	3, 10 and 25 µ Z-Media® (synthetic)
Invert Emulsions	10 and 25 µ Z-Media® (synthetic)
Water Glycols	3, 10 and 25 µ Z-Media® (synthetic)

Fluid Compatibility

NOF30-05
NOF-50-760
FOF60-03
NMF30
RMF60
14-CRZX10
20-CRZX10



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

Element	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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(\alpha) \geq 200$	$\beta_x(\alpha) \geq 1000$
NNZX3	<1.0	<1.0	<2.0	4.7	5.8
NNZX10	7.4	8.2	10.0	8.0	9.8

Element	DHC (gm)
NNZX3	11*
NNZX10	13*

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

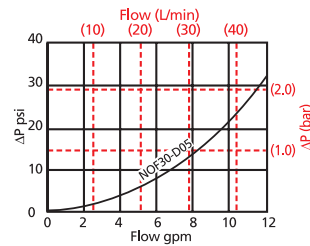
Flow Direction: Outside In

Element Nominal Dimensions: 1.75" (45 mm) O.D. x 8.00" (200 mm) long

*Based on 100 psi terminal pressure

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

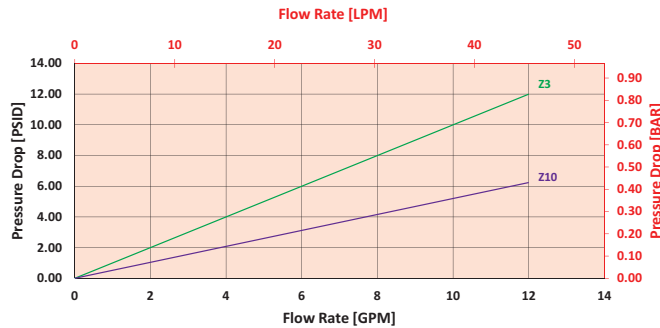
NOF30-05 $\Delta P_{\text{housing}}$ for fluids with sp gr (specific gravity) = 0.86:



$\Delta P_{\text{element}}$

1NNZX

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



Pressure Drop Information
Based on
Flow Rate
and Viscosity

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + (\Delta P_{\text{element}} * V_f)$$

Exercise:

Determine ΔP_{filter} at 5 gpm (19 L/min) for NOF301NNZX1005D5 using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine $\Delta P_{\text{housing}}$ at 5 gpm. In this case, $\Delta P_{\text{housing}}$ is 5 psi (.34 bar) on the graph for the NOF30 housing.

Use the element pressure curve to determine $\Delta P_{\text{element}}$ at 5 gpm. In this case, $\Delta P_{\text{element}}$ is 3 psi (.21 bar) according to the graph for the NNZX10 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, ΔP_{filter} , is calculated by adding $\Delta P_{\text{housing}}$ with the true element pressure differential, $(\Delta P_{\text{element}} * V_f)$. The $\Delta P_{\text{element}}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

$$\Delta P_{\text{housing}} = 5 \text{ psi } [.34 \text{ bar}] \quad | \quad \Delta P_{\text{element}} = 3 \text{ psi } [.21 \text{ bar}]$$

$$V_f = 160 \text{ SUS (34 cSt)} / 150 \text{ SUS (32 cSt)} = 1.1$$

$$\Delta P_{\text{filter}} = 5 \text{ psi} + (3 \text{ psi} * 1.1) = 8.3 \text{ psi}$$

OR

$$\Delta P_{\text{filter}} = .34 \text{ bar} + (.21 \text{ bar} * 1.1) = .57 \text{ bar}$$

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder NOF30-05:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
NOF30						

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7
NOF30	1	NNZX3		05		D5

= NOF301NNZX305D5

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Number & Size of Elements	Element Part Number	Seal Material	Porting
NOF30	1	NNZX3 = NN size 3 μ high collapse media NNZX10 = NN size 10 μ high collapse media NNZX25 = NN size 25 μ high collapse media	Omit = Buna N V = Viton® W = Buna N	05 = D05 subplate pattern

BOX 6	BOX 7
Options	Dirt Alarm® Options
Omit = None	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 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
	MS13DC = Supplied w/ threaded connector & light MS14DC = 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. For options V and W, all aluminum parts are anodized. Viton® is a registered trademark of DuPont Dow Elastomers.