

High-Pressure Sandwich Filter

NOF30-05



Features and Benefits

- Sandwich filter configured for DO5 subplate
- Withstands high pressure surges, high static pressure loads
- 3000 psi collapse elements

Model No. of filter in photograph is NOF301NNZX305D5.



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Applications

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)
Rated Fatigue Pressure:	Contact Factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Non-Bypass Model:	High collapse elements are standard
Porting Head:	Aluminum
Element Case:	Aluminum
Weight of NOF30-1NN:	6.6 lbs. (3.0 kg)
Element Change Clearance:	4.50" (115 mm)

Filter Housing Specifications

FOF60-03

NOF30-05

NOF50-760

NMF30

RMF60

Cartridge
Elements

NF30

NFS30

YF30

DF40

CF40

CFX30

RF60

RFS50

CF60

VF60

KF30

TF50

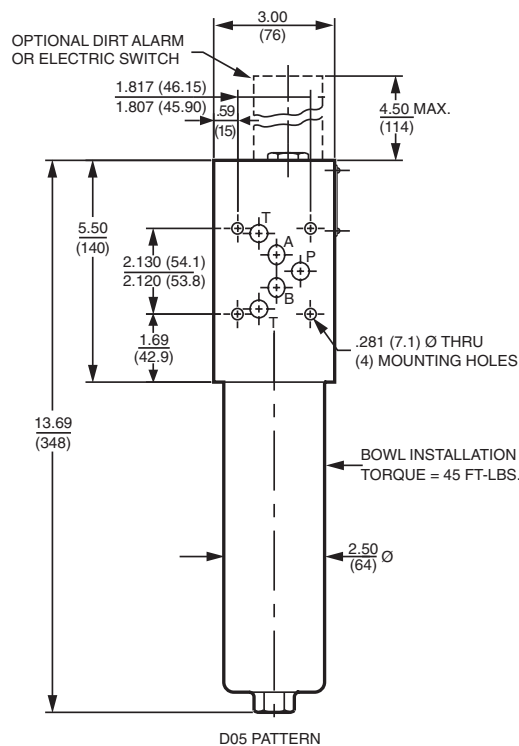
KF50

KC50

KFH50

MKF50

KC65



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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
NNZX3	<1.0	<1.0	<2.0	4.7	5.8
NNZX10	7.4	8.2	10.0	8.0	9.8

Dirt Holding Capacity

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

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

Fluid Compatibility

NF30

NFS30

YF30

DF40

CF40

CFX30

RF60

RFS50

CF60

VF60

KF30

TF50

KF50

KC50

KFH50

MKF50

KC65

FOF60-03

NOF30-05

NOF50-760

NMF30

RMF60

Cartridge Elements

Pressure	Element Series	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid.	
To 3000 psi (210 bar)	Z Media	NNZX3	1NNZX3	
		NNZX10	1NNZX10	
		NNZX25	1NNZX25	
Flow	gpm	0		12
		(L/min)	0	20 40 45

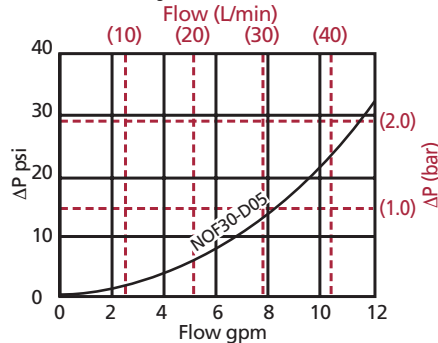
Element Selection Based on Flow Rate

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.

$\Delta P_{\text{housing}}$ (D05 Porting)

NOF30-D05 $\Delta P_{\text{housing}}$ 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.

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

$\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$

El. ΔP factors @ 150 SUS (32 cSt):

NNZX3	1.00
NNZX10	.52

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

Notes

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

Exercise:

Determine ΔP at 8 gpm (30 L/min) for NOF301NNZX1005D5 using 150 SUS (32 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 15.0 \text{ psi [1.0 bar]}$$

$$\begin{aligned} \Delta P_{\text{element}} &= 8 \times 0.52 \times (150 \div 150) = 4.2 \text{ psi} \\ &\text{or} \\ &= [30 \times (0.52 \div 54.9) \times (32 \div 32)] = 0.3 \text{ bar} \end{aligned}$$

$$\begin{aligned} \Delta P_{\text{total}} &= 15.0 + 4.2 = 19.2 \text{ psi} \\ &\text{or} \\ &= [1.0 + 0.3 = 1.3 \text{ bar}] \end{aligned}$$

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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 - - - - - - -

Example: NOTE: One option per box

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 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		Omit = None	
90 = Optional indicator setting		Visual	
		D5 = Visual pop-up (60 psid indicator setting)	
		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 MS15DC = Electrical, direct current normally open, for DC use only MS15DCNC = Electrical, direct current normally closed, for DC use only 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. For options V and W, all aluminum parts are anodized.
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