

**SAME DAY SHIPMENT MODEL AVAILABLE!**

# Top-Ported Pressure Filter

**NF30**



### Features and Benefits

- Top-ported pressure filter
- All aluminum assembly
- Available with non-bypass option with high collapse element
- Offered in pipe, SAE straight thread and ISO 228 porting
- Same day shipment model available

Model No. of filter in photograph is NF301NZ10SD5.



INDUSTRIAL



AUTOMOTIVE  
MANUFACTURING



MACHINE  
TOOL



STEEL  
MAKING



PULP & PAPER



AGRICULTURE



MOBILE  
VEHICLES

**20 gpm**  
**75 L/min**  
**3000 psi**  
**210 bar**

NF30

NFS30

YF30

CFX30

PLD

DF40

CF40

PF40

RFS50

RF60

CF60

CTF60

VF60

LW60

KF30

TF50

KF50

KC50

MKF50

KC65

NOF30-05

NOF50-760

FOF60-03

NMF30

RMF60

Cartridge  
Elements

HS60

MHS60

KFH50

### Applications

Flow Rating: Up to 20 gpm (75 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: 2400 psi (165 bar), per NFPA T2.6.1

Temp. Range: -20°F to 225°F (-29°C to 107°C)

Bypass Setting: Cracking: 40 psi (2.8 bar)  
Full Flow: 85 psi (5.9 bar)  
Non-bypassing model has a blocked bypass.

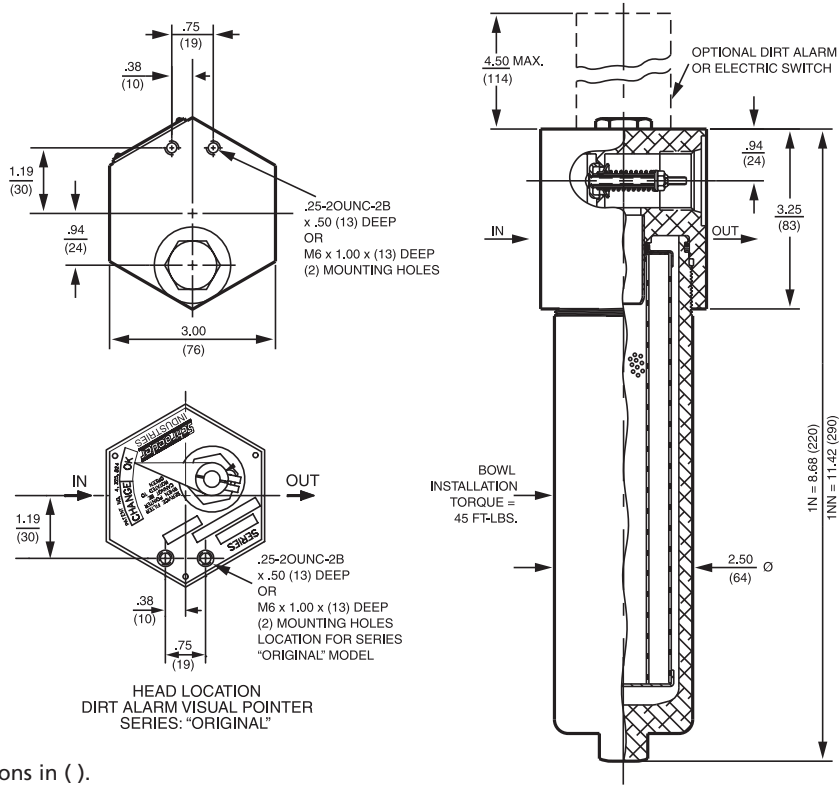
Porting Head: Aluminum  
Element Case: Aluminum

Weight of NF30-1N: 3.4 lbs. (1.5 kg)

Weight of NF30-1NN: 4.4 lbs. (2.0 kg)

Element Change Clearance: 4.50" (115 mm)

### Filter Housing Specifications



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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
N3/NN3	6.8	7.5	10.0	N/A	N/A
N10/NN10	15.5	16.2	18.0	N/A	N/A
NZ1/NNZ1	<1.0	<1.0	<1.0	<4.0	4.2
NZ3/NAS3/NNZ3/NNAS3	<1.0	<1.0	<2.0	<4.0	4.8
NZ5/NAS5/NNZ5/NNAS5	2.5	3.0	4.0	4.8	6.3
NZ10/NAS10/NNZ10/NNAS10	7.4	8.2	10.0	8.0	10.0
NZ25/NNZ25	18.0	20.0	22.5	19.0	24.0
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)	Element	DHC (gm)
N3	8	NN3	12
N10	7	NN10	10
NZ1	12	NNZ1	15
NZ3/NAS3	12	NNZ3/NNAS3	16
NZ5/NAS5	12	NNZ5/NNAS5	18
NZ10/NAS10	11	NNZ10/NNAS10	15
NZ25	11	NNZ25	15
		NNZX3	11*
		NNZX10	13*

Element Collapse Rating: 150 psid (10 bar) for standard elements \*Based on 100 psi terminal pressure  
3000 psid (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions: N:N 1.75" (45 mm) O.D. x 5.25" (135 mm) long  
NN: 1.75" (45 mm) O.D. x 8.0" (200 mm) long

**Type Fluid Appropriate Schroeder Media**

<b>Petroleum Based Fluids</b>	All E Media (cellulose), Z-Media® and ASP Media (synthetic)
<b>High Water Content</b>	All Z-Media® and ASP Media (synthetic)
<b>Invert Emulsions</b>	10 and 25 µ Z-Media® (synthetic), 10 µ ASP Media (synthetic)
<b>Water Glycols</b>	3, 5, 10 and 25 µ Z-Media® (synthetic), 3, 5, and 10 µ ASP Media (synthetic)

**Fluid Compatibility**

**NF30**

NFS30

YF30

CFX30

**Element Selection Based on Flow Rate**

PLD

DF40

CF40

PF40

RFS50

RF60

CF60

CTF60

VF60

LW60

KF30

TF50

KF50

KC50

MKF50

KC65

NOF30-05

NOF50-760

FOF60-03

NMF30

RMF60

**Cartridge Elements**

HS60

MHS60

KFH50

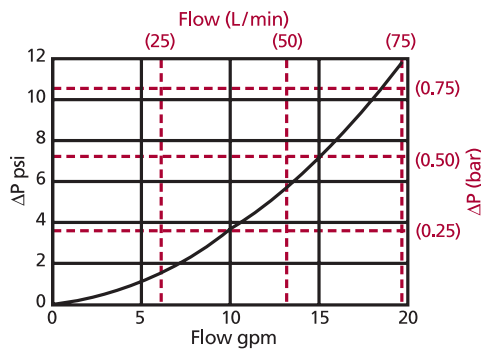
Pressure	Series	Element	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.				
		Part No.					
To 3000 psi (210 bar)	E Media	N3 & NN3	1N3	1NN3	See DF40		
		N10 & NN10	1N10		1NN10		
		N25	1N25				
	Z-Media®	NZ1 & NNZ1	1NZ1	1NNZ1	See DF40 or YF30		
		NZ3 & NNZ3	1NZ3		1NNZ3		
		NZ5 & NNZ5	1NZ5			1NNZ5	
		NZ10 & NNZ10	1NZ10 & 1NNZ10				
		NZ25 & NNZ25	1NZ25 & 1NNZ25				
	Flow	gpm	0	5	10	15	20
		(L/min)	0	25	50	50	75

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<sub>housing</sub>**

NF30 ΔP<sub>housing</sub> 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<sub>element</sub>**

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

El. ΔP factors @ 150 SUS (32 cSt):

	1N	1NN
N3	1.10	.77
N10	.17	.13
N25	.10	.07
NZ1	1.43	1.23
NZ3/NAS3	.92	.56
NZ5/NAS5	.71	.46
NZ10/NAS10	.57	.35
NZ25	.36	.20
	NNZ3	1.00
	NNZ10	.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 15 gpm (57 L/min) for NF301NZ25SMS5 using 200 SUS (44 cSt) fluid.

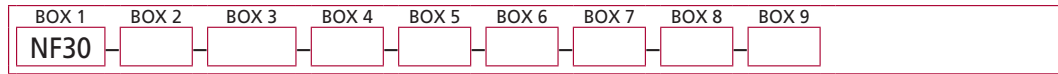
**Solution:**

$\Delta P_{\text{housing}} = 7.0 \text{ psi } [.50 \text{ bar}]$   
 $\Delta P_{\text{element}} = 15 \times .36 \times (200 \div 150) = 7.2 \text{ psi}$   
 or  
 $= [57 \times (.36 \div 54.9) \times (44 \div 32)] = .51 \text{ bar}$   
 $\Delta P_{\text{total}} = 7.0 + 7.2 = 14.2 \text{ psi}$   
 or  
 $= [.50 + .51 = 1.01 \text{ bar}]$

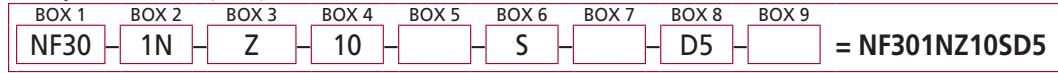
## Filter Model Number Selection

**Same Day Shipment Model**  
See inside back cover for details.

### How to Build a Valid Model Number for a Schroeder NF30



**Example:** NOTE: One option per box



BOX 1	BOX 2	BOX 3
<b>Filter Series</b>	<b>Number &amp; Size of Elements</b>	<b>Media Type</b>
NF30	1 N NN	Omit = E Media (Cellulose) Z = Excellement® Z-Media® (synthetic) AS = Anti-Stat Media (synthetic) ZX = Excellement® Z-Media® (high collapse center tube) M = Media (reusable metal mesh) N size only
<b>NFN30</b> (Non-bypassing: requires ZX high collapse elements)		

BOX 4
<b>Micron Rating</b>
1 = 1 Micron (Z, ZW, ZX media)
3 = 3 Micron (AS, E, Z, ZW, ZX media)
5 = 5 Micron (AS, Z, ZW, ZX media)
10 = 10 Micron (AS, E, M, Z, ZW, ZX media)
25 = 25 Micron (E, Z, ZW, ZX media) only N
60 = 60 Micron (M media)

BOX 5
<b>Seal Material</b>
Omit = Buna N
V = Viton®
W = Buna N

BOX 6
<b>Porting</b>
B = ISO228 G-3/4"
P = 3/4" NPTF
S = SAE-12

BOX 7
<b>Options</b>
Omit = None
X = Blocked bypass (NA with NFN30)

BOX 8	
<b>Dirt Alarm® Options</b>	
	Omit = None
Visual	D = Pointer (D available with NF30 only) 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
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

BOX 9
<b>Additional Options</b>
Omit = None
G792 = 3/16" -20 UNF drain on housing

**NOTES:**

Box 2. Replacement element part numbers are identical to contents of Boxes 2, 3, 4 and 5.

Box 5. E media (cellulose) elements are only available with Buna N seals. For options V and W, all aluminum parts are anodized. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 6. B porting option supplied with metric mounting holes.

Box 8. Standard indicator setting for non-bypassing model is 50 psi unless otherwise specified.