

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

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

Model No. of filter in photograph is NF301NZ10SD5.



INDUSTRIAL



AUTOMOTIVE
MANUFACTURING



MACHINE
TOOL



STEEL
MAKING



PULP & PAPER



AGRICULTURE

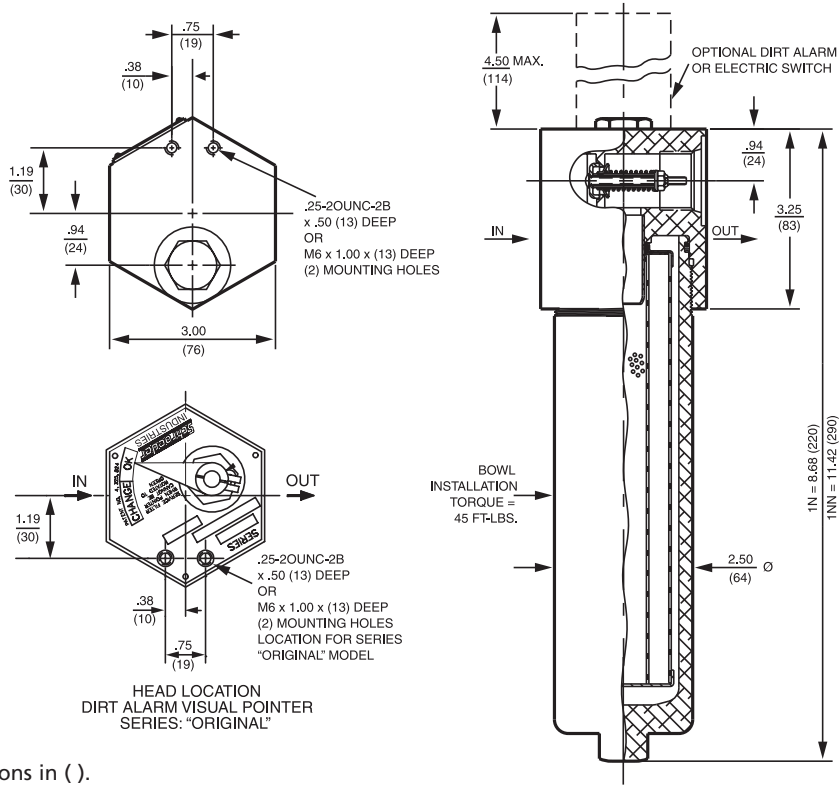


MOBILE
VEHICLES

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

| | |
|-------------------------------|------------------------------------------------------------------------------|
| Petroleum Based Fluids | All E Media (cellulose), Z-Media® and ASP Media (synthetic) |
| High Water Content | All Z-Media® and ASP Media (synthetic) |
| Invert Emulsions | 10 and 25 µ Z-Media® (synthetic), 10 µ ASP Media (synthetic) |
| Water Glycols | 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

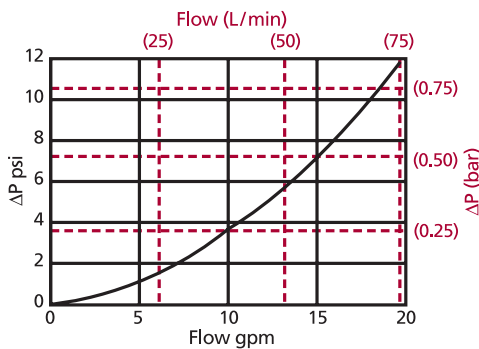
| Pressure | Series | Element | Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve. | | | | |
|-----------------------|----------|--------------|-----------------------------------------------------------------------------------------------------------------------------|-------|------------------|-------|----|
| | | 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_{housing}

NF30 ΔP_{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.

ΔP_{element}

ΔP_{element} = 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.

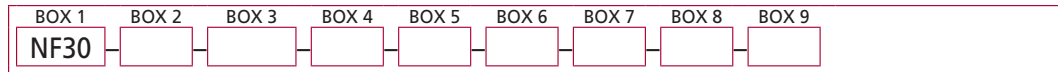
Solution:

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

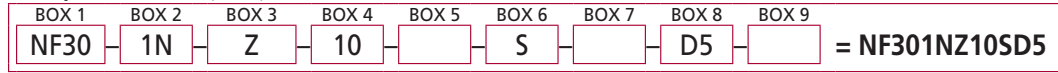
Filter Model Number Selection

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 |
|---------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Series | Number & Size of Elements | Media Type |
| 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 |
| NFN30 (Non-bypassing: requires ZX high collapse elements) | | |

| BOX 4 |
|--------------------------------------------|
| Micron Rating |
| 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 |
|----------------------|
| Seal Material |
| Omit = Buna N |
| V = Viton® |
| W = Buna N |

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

| BOX 7 |
|------------------------------------|
| Options |
| Omit = None |
| X = Blocked bypass (NA with NFN30) |

| BOX 8 | |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dirt Alarm® Options | |
| 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 |
|---------------------------------------|
| Additional Options |
| 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.