

**SAME DAY SHIPMENT MODEL AVAILABLE!**

# Top-Ported Pressure Filter

**DF40**



## Features and Benefits

- Top-ported pressure filter
- Available with non-bypass option with high collapse element
- Offered in conventional subplate porting
- Offered in pipe, SAE straight thread and ISO 228 porting
- Same day shipment model available
- No-Element indicator option available

**30 gpm**  
**115 L/min**  
**4000 psi**  
**275 bar**

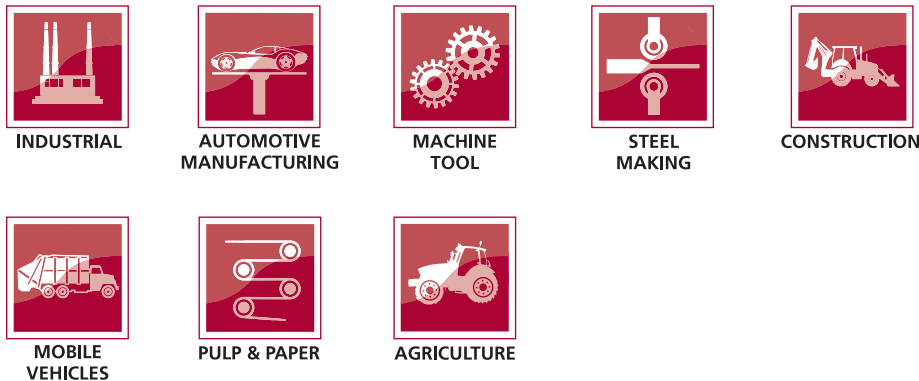
NF30  
 NFS30  
 YF30  
 CFX30  
 PLD  
**DF40**

CF40  
 PF40  
 RFS50  
 RF60  
 CF60  
 CTF60

VF60  
 LW60  
 KF30  
 TF50  
 KF50  
 KC50

MKF50  
 KC65  
 NOF30-05  
 NOF50-760

## Applications

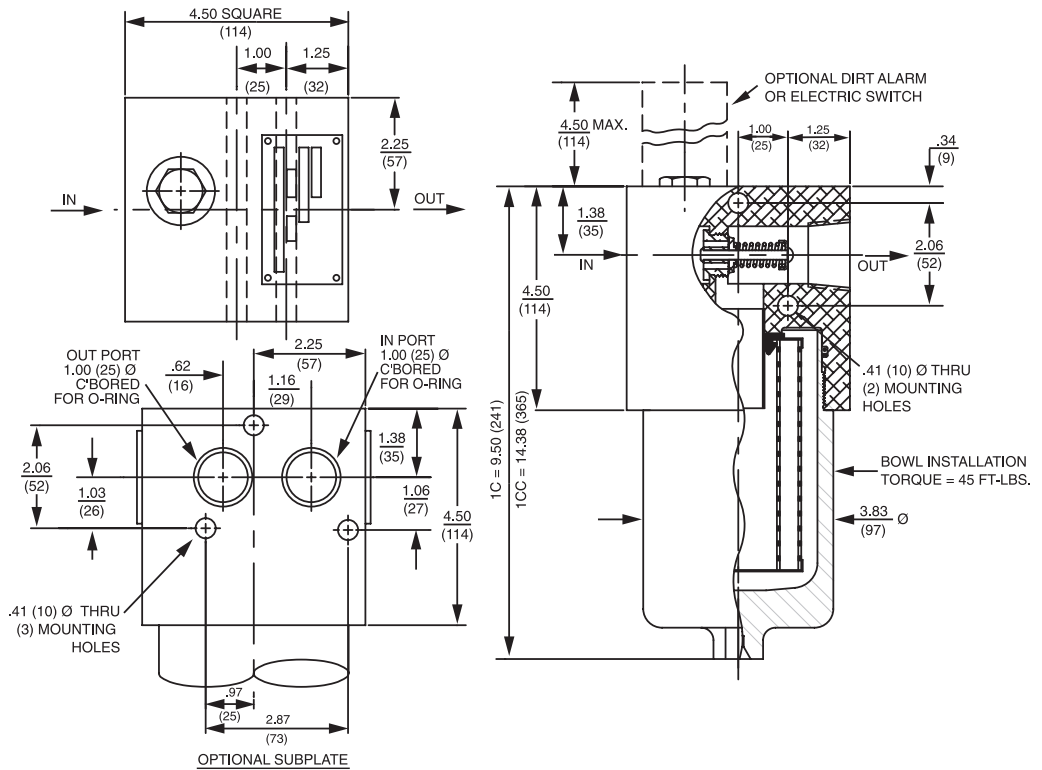


Model No. of filter in photograph is DF401CCZ10PD5.

## Filter Housing Specifications

Flow Rating:	Up to 30 gpm (115 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	4000 psi (275 bar)
Min. Yield Pressure:	12,000 psi (828 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	1800 psi (125 bar), per NFPA T2.6.1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Full Flow: 57 psi (3.9 bar) Non-bypassing model has a blocked bypass.
Porting Head:	Aluminum
Element Case:	Steel
Weight of DF40-1C:	14.0 lbs. (6.4 kg)
Weight of DF40-1CC:	19.5 lbs. (8.9 kg)
Element Change Clearance:	4.0" (100 mm)

FOF60-03  
 NMF30  
 RMF60  
 Cartridge Elements  
 HS60  
 MHS60  
 KFH50



Metric dimensions in ( ). PORTING

## 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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
C3/CC3	6.8	7.5	10.0	N/A	N/A
C10/CC10	15.5	16.2	18.0	N/A	N/A
CZ1/CCZ1	<1.0	<1.0	<1.0	<4.0	4.2
CZ3/CAS3/CCZ3/CCAS3	<1.0	<1.0	<2.0	<4.0	4.8
CZ5/CAS5/CCZ5/CCAS5	2.5	3.0	4.0	4.8	6.3
CZ10/CAS10/CCZ10/CCAS10	7.4	8.2	10.0	8.0	10.0
CCZ25/CCZ25	18.0	20.0	22.5	19.0	24.0
CCZX3	<1.0	<1.0	<2.0	4.7	5.8
CCZX10	7.4	8.2	10.0	8.0	9.8

## Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)
C3	14	CC3	30
C10	12	CC10	25
CZ1	25	CCZ1	57
CZ3/CAS3	26	CCZ3/CCAS3	58
CZ5/CAS5	30	CCZ5/CCAS5	63
CZ10/CAS10	28	CCZ10/CCAS10	62
CCZ25	28	CCZ25	63
		CCZX3	26*
		CCZX10	28*

Element Collapse Rating: 150 psid (10 bar) for standard elements  
3000 psid (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions: C:C 3.0" (75 mm) O.D. x 4.75" (120 mm) long  
CC: 3.0" (75 mm) O.D. x 9.5" (240 mm) long

\*Based on 100 psi terminal pressure

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) and all ASP Media (synthetic)
Phosphate Esters	All Z-Media® and ASP Media (synthetic) with H (EPR) seal designation
Skydrol®	3, 5, 10 and 25 µ Z-Media® (synthetic) and all ASP Media (synthetic) with H.5 seal designation (EPR seals and stainless steel wire mesh in element, and light oil coating on housing exterior)

### Fluid Compatibility

- NF30
- NFS30
- YF30
- CFX30

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PLD

**DF40**

### Element Selection Based on Flow Rate

- CF40
- PF40
- RFS50
- RF60
- CF60
- CTF60
- VF60
- LW60

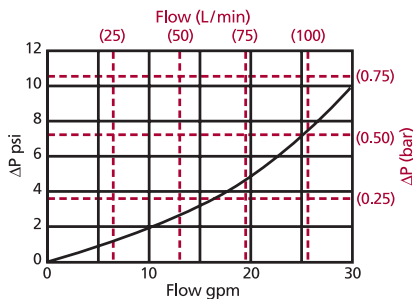
Pressure	Series	Element	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.					
		Part No.	1C3		1CC3			
To 4000 psi (275 bar)	E Media	C3 & CC3	1C3		1CC3			
		C10 & CC10	1C10		1CC10			
		C25 & CC25	1C25					
	Z-Media®	CZ1 & CCZ1	1CZ1		1CCZ1			
		CZ3 & CCZ3	1CZ3		1CCZ3			
		CZ5 & CCZ5	1CZ5 & 1CCZ5					
		CZ10 & CCZ10	1CZ10 & 1CCZ10					
		CZ25 & CCZ25	1CZ25 & 1CCZ25					
	Flow	gpm	0	10	15	20	25	30
		(L/min)	0	25	50	75	100	115

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>

DF40 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):

	1C	1CC
C3	.50	.22
C10	.19	.13
C25	.09	.03
CZ1	.70	.35
CZ3/CAS3	.50	.20
CZ5/CAS5	.32	.19
CZ10/CAS10	.25	.10
CZ25	.14	.05
		CCZX3
		CCZX10

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

- KF30
- TF50
- KF50
- KC50
- MKF50
- KC65
- NOF30-05
- NOF50-760

### Notes


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

#### Exercise:

Determine ΔP at 20 gpm (75 L/min) for DF401CZ10PMS using 200 SUS (44 cSt) fluid.

#### Solution:

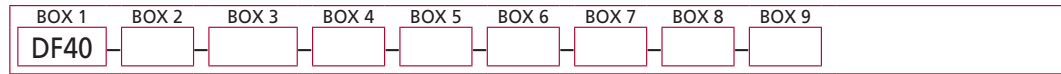
$$\begin{aligned} \Delta P_{\text{housing}} &= 5.0 \text{ psi } [.35 \text{ bar}] \\ \Delta P_{\text{element}} &= 20 \times .25 \times (200 \div 150) = 6.6 \text{ psi} \\ &\text{or} \\ &= [75 \times (.25 \div 54.9) \times (44 \div 32) = .46 \text{ bar}] \\ \Delta P_{\text{total}} &= 5.0 + 6.6 = 11.6 \text{ psi} \\ &\text{or} \\ &= [.35 + .46 = 11.7 \text{ bar}] \end{aligned}$$

- FOF60-03
- NMF30
- RMF60
- Cartridge Elements
- HS60
- MHS60
- KFH50

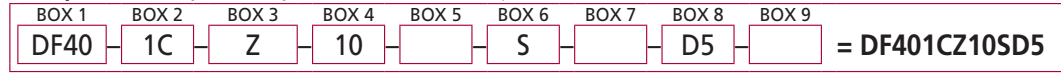
## Filter Model Number Selection

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

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



**Example:** NOTE: Only box 7 may contain more than one option



Filter Series	Number and Size of Elements	Media Type	
DF40	C	Omit	E Media(Cellulose)
	D	Z	= Excellement® Z-Media® (synthetic)
DFN40 (Non-bypassing: requires ZX high collapse elements)	CC	ZX	= Excellement® Z-Media® (High Collapse center tube)
	DD	AS	= Anti-Stat Media (synthetic)
		M	= Media (reusable metal mesh) D/DD size only

BOX 4 Micron Rating		BOX 5 Seal Material	BOX 6 Porting
1 = 1 Micron	(Z, ZW, ZX media)	Omit = Buna N	O = Manifold mounting
3 = 3 Micron	(AS,E, Z, ZW, ZX media)	V = Viton®	S = SAE-16
5 = 5 Micron	(AS, Z, ZW, ZX media)	W = Buna N	P = 1" NPTF
10 = 10 Micron	(AS,E,M, Z, ZW, ZX media)	H = EPR	B = ISO 228 G-1
25 = 25 Micron	(E & Z-media®)	H.5 = Skydrol® compatibility	
60 = 60 Micron	(M media)		

BOX 7 Options	BOX 8 Dirt Alarm® Options	
Omit = None	Omit = None	
X = Blocked bypass	Visual	D = Pointer
50 = 50 psi bypass seating	Visual with Thermal Lockout	D5 = Visual pop-up
L = Two ¼" NPTF inlet and outlet female test points	Electrical	D8 = Visual w/ thermal lockout
U = Schroeder Check 7/16" -20 UNF Test Point installation in cap (upstream)		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	MS = Cam operated switch w/ ½" conduit female connection 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
N = No-Element Indicator (DF40 only)

**NOTES:**

Box 2. Replacement element part numbers are identical to contents of Boxes 2, 3, 4 and 5. E media (cellulose) elements are only available with Buna N seals.

Box 5. For options H, V, W, and H.5, all aluminum parts are anodized. H.5 seal designation includes the following: EPR seals, stainless steel wire mesh on elements, and light oil coating on housing exterior. Viton® is a registered trademark of DuPont Dow Elastomers. Skydrol® is a registered trademark of Solutia Inc.

Box 6. For option O, O-rings included for subplate option; fastening hardware not included.

Box 7. Options X and 50 are not available with DFN40.

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

Box 9. N option is not available with DFN40. N option should be used in conjunction with dirt alarm.