

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

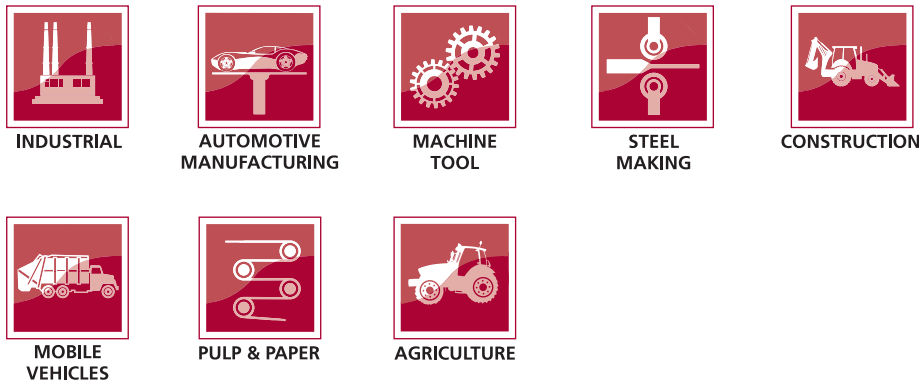
NF30
 NFS30
 YF30
 CFX30
 PLD
DF40

CF40
 PF40
 RFS50
 RF60
 CF60
 CTF60

VF60
 LW60
 KF30
 TF50
 KF50
 KC50

MKF50
 KC65
 NOF30-05
 NOF50-760

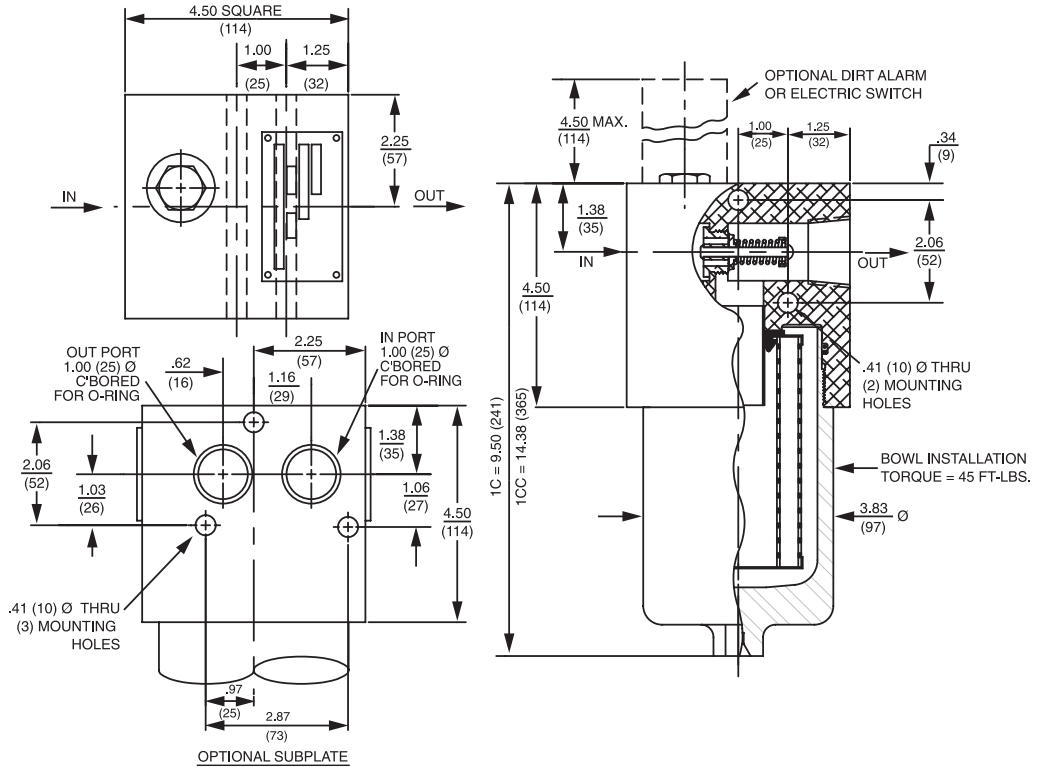
Applications



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

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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

Skydrol® is a registered trademark of Solutia Inc.

PLD

DF40

Element Selection Based on Flow Rate

CF40
PF40
RFS50
RF60
CF60
CTF60
VF60
LW60

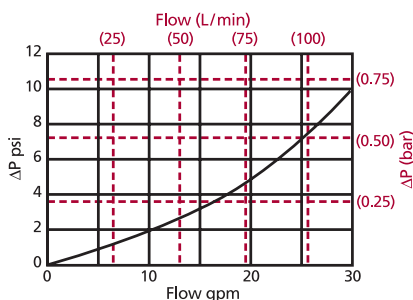
Pressure	Series	Element	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 40 psi (2.8 bar) bypass valve.				
		Part No.	1C3	1C10	1C25	1CC3	1CC10
To 4000 psi (275 bar)	E Media	C3 & CC3					
		C10 & CC10					
		C25 & CC25					
	Z-Media®	CZ1 & CCZ1					
		CZ3 & CCZ3					
		CZ5 & CCZ5					
		CZ10 & CCZ10					
		CZ25 & CCZ25					
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_{housing}

DF40 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):

	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
		.29
		.26

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:

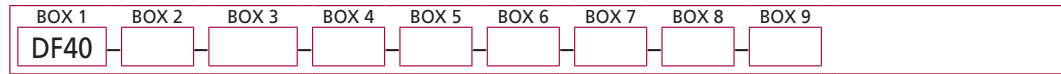
$$\begin{aligned} \Delta P_{\text{housing}} &= 5.0 \text{ psi } [.35 \text{ bar}] \\ \Delta P_{\text{element}} &= 20 \times .25 \times (200 \div 150) = 6.6 \text{ psi} \\ &\text{or} \\ &= [75 \times (.25 \div 54.9) \times (44 \div 32)] = .46 \text{ bar} \\ \Delta P_{\text{total}} &= 5.0 + 6.6 = 11.6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

FOF60-03
NMF30
RMF60
Cartridge Elements
HS60
MHS60
KFH50

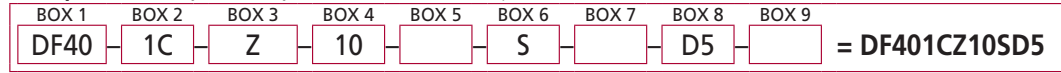
Filter Model Number Selection

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)		

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.

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