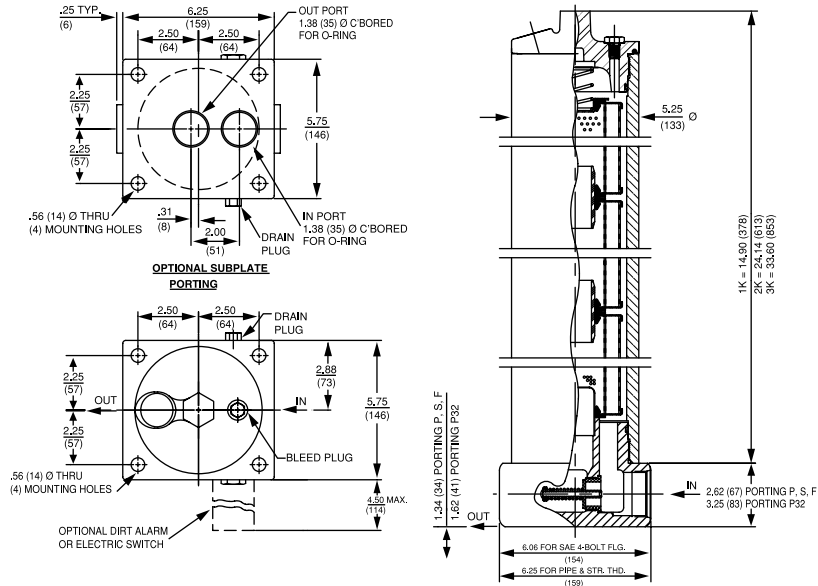


KF50

Base-Ported Pressure Filter

100/150 gpm
380/570 L/min
5000 psi
345 bar



Metric dimensions in ().
 Model No. of filter in photograph is KF501K10FD.

Filter Housing Specifications

Flow Rating:	Up to 100 gpm (380 L/min) for 150 SUS (32 cSt) fluids With 2" porting only, up to 150 gpm (570 L/min) for 150 SUS 32 cSt fluids
Max. Operating Pressure:	5000 psi (345 bar)
Min. Yield Pressure:	15,000 psi (1035 bar)
Rated Fatigue Pressure:	3500 psi (240 bar), per NFPA T2.6.1-1974
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Optional Cracking: 50 psi (3.5 bar) Full Flow: 61 psi (4.2 bar)
Porting Base & Cap:	Ductile Iron
Element Case:	Steel
Weight of KF50-1K:	59.7 lbs. (27.1 kg)
Weight of KF50-2K:	80.7 lbs. (36.6 kg)
Weight of KF50-3K:	102.5 lbs. (46.5 kg)
Element Change Clearance:	8.50" (215 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K

Element Performance Information

Element	Absolute Rating Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Abs. Rating wrt ISO 16889 Using APC calibrated per ISO 11171		Dirt Holding Capacity gm
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$	
K3	6.8	7.5	10.0	N/A	N/A	54
K10	15.5	16.2	18.0	N/A	N/A	44
KZ1	<1.0	<1.0	<1.0	<4.0	4.2	112
KZ3	<1.0	<1.0	<2.0	4.7	5.8	115
KZ5	2.5	3.0	4.0	6.5	7.5	86
KZ10	7.4	8.2	10.0	10.0	12.7	108
KZ25	18.0	20.0	22.5	19.0	24.0	93
KZX3	<1.0	<1.0	<2.0	4.7	5.8	40*
KZX10	7.4	8.2	10.0	10.0	12.7	49*

Element Collapse Rating: 150 psid (10 bar) for standard elements
 3000 psid (210 bar) for high crush (ZX) versions
 Flow Direction: Outside In
 Element Nominal Dimensions: 4.0" (100 mm) O.D. x 9.0" (230 mm) long

*Based on 100 psi terminal pressure

Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All Paper (E) and Synthetic (Z) Media
High Water Content	Z1, Z3, Z5, Z10, Z25
Invert Emulsions	Z10, Z25
Water Glycols	Z3, Z5, Z10, Z25
Phosphate Esters	All Z Media with EPR Seals, K3H and K10H E Media
Skydrol	Z3H.5, Z5H.5, Z10H.5, Z25H.5 and WH.5

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.

Base-Ported Pressure Filter **KF50**

- Meets HF4 automotive standard.
- Vertical/Horizontal mounting versatility.
- Element changeout from top minimizes oil spillage.
- No-Element indicator available.

Features

NF30

Pressure	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.					
	Series	Part No.	1K3	2K3†	3K3	See MKF50		
To 5000 psi (345 bar)	E Media	K10	1K10	2K10†	3K10†	3K10†	See MKF50	
		K25	1K25			2K25†		
		KZ1	1KZ1	2KZ1†		3KZ1†		
	Z Media	KZ3	1KZ3			2KZ3†	3KZ3†	
		KZ5	1KZ5			2KZ5†	3KZ5†	
		KZ10	1KZ10			2KZ10†	3KZ10†	
		KZ25	1KZ25			2KZ25†		
Flow	gpm	0	25	50	75	100	125	150
	(L/min)	0	100	200	300	400	500	570

Element Selection

Based on Flow Rate

NFS30

DF40

CF40

CFX30

EF60

†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

requires 2" porting (P32)

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

Exercise:
Determine ΔP at 50 gpm (190 L/min) for KF501KZ3PD5 using 200 SUS (44 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 3.0 \text{ psi } [.20 \text{ bar}]$$

$$\Delta P_{\text{element}} = 50 \times .10 \times (200 \div 150) = 6.7 \text{ psi}$$

or

$$= [190 \times (.10 \div 54.9) \times (44 \div 32) = .48 \text{ bar}]$$

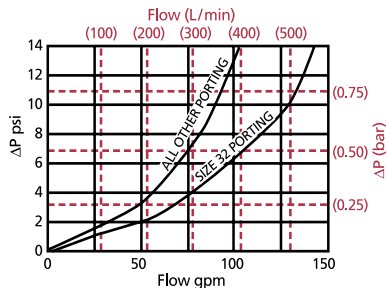
$$\Delta P_{\text{total}} = 3.0 + 6.7 = 9.7 \text{ psi}$$

or

$$= [.20 + .48 = .68 \text{ bar}]$$

$\Delta P_{\text{housing}}$

KF50 $\Delta P_{\text{housing}}$ for fluids with sp gr = 0.86:



sp gr = specific gravity

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

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

El. ΔP factors @ 150 SUS (32 cSt):

	1K	2K	3K
K3	.25	.12	.08
K10	.09	.05	.03
K25	.02	.01	.01
KZ1	.20	.10	.05
KZ3	.10	.05	.03
KZ5	.08	.04	.02
KZ10	.05	.03	.02
KZ25	.04	.02	.01
KZX10	.22	.11	.07

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

EF550

CF60

VF60

KF30

TF50

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

Filter Series	No. of Elements†	Element Part No.	Seal Material	Porting	Dirt Alarm® (See Appendix A for complete list of options)
KF50 (See Section 5, page 138 for Water Service version.)	1	K3 K10 K25 KZ1 KZ3 KZ5 KZ10 KZ25	(Omit) = Buna N	P = 1½" NPTF P32 = 2" NPTF	D = Pointer MS = Electric Cam Operated D5 = Cartridge D5C = Cartridge in Cap
	2	KM10 KM25 KM60 KM150 KM260	H = EPR	S = 1⅞"-12 SAE Straight (SAE-24)	Electric Cartridge: MS5AC/DC/LC Family
	3	KW	V = Viton	F = 1½" SAE J518 4-Bolt Flange Code 62* O = Subplate**	
KFN50 (Non-bypass)		KZX3 KZX10 KZX25		B = ISO 228 G-1½" (1½-11 BSPP)	D5 = Cartridge D5C = Cartridge in Cap MS5AC/DC/LC Family

Filter Model Number Selection

KF50

KC50

KFH50

MKF50

KC65

FOF30-03

FOF60-03

NOF30-05

Cartridge Elements

*Bolt thread depth .75" (19 mm).

**O-rings included; fastening hardware not included.

†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

L = Two ¼" NPTF inlet & outlet female test ports

N = No-Element indicator***

50 = Optional bypass setting***

U = Test point installation in cap (upstream)

UU = Test point installation in block (upstream and downstream)

X = Blocked bypass valve***

G509 = Dirt alarm and drain opposite standard***

G588 = Micro switch and drain opposite standard***

M = Magnet Inserts

***not available with KFN50

See Appendix B for additional information on these options and instructions on how to order.

Other Available Options