

Hydrostatic Base-Ported Filter **KFH50**



Features and Benefits

- Base-ported Hydrostatic high pressure filter
- Hydrostatic transmission filter for reversing loop systems
- Filters in the "in to out" direction, bypasses in reverse direction
- Element changeout from top minimizes oil spillage
- Offered in pipe, SAE straight thread, flanged and ISO 228 porting
- Integral inlet and outlet female test points option available
- Offered in conventional subplate porting
- Completion of application questionnaire a requirement (contact factory)
- Double and triple stacking of K-size elements can be replaced by single KK or 27K-size elements

Model No. of filter in photograph is KFH501K10SD.



INDUSTRIAL



**AUTOMOTIVE
MANUFACTURING**



**MINING
TECHNOLOGY**



**STEEL
MAKING**



**MOBILE
VEHICLES**

70 gpm
265 L/min
5000 psi
345 bar

NF30

NFS30

YF30

DF40

CF40

CFX30

RF60

RFS50

CF60

VF60

KF30

TF50

KF50

KC50

KFH50

MKF50

KC65

FOF60-03

NOF30-05

NOF50-760

NMF30

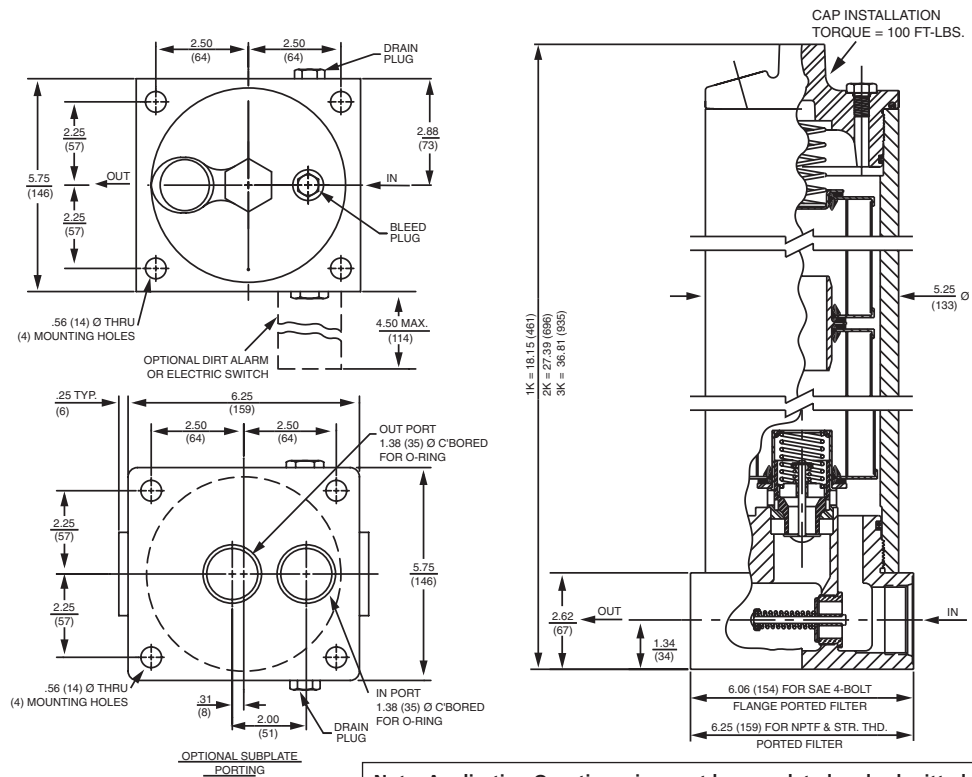
RMF60

Cartridge
Elements

Applications

Filter Housing Specifications

Flow Rating:	Up to 70 gpm (265 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 T2.6.1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 40 psi (2.8 bar) Full Flow: 61 psi (4.2 bar)
Porting Base & Cap: Element Case:	Ductile Iron Steel
Weight of KFH50-1K: Weight of KFH50-2K: Weight of KFH50-3K:	60.0 lbs. (27.2 kg) 80.3 lbs. (36.4 kg) 100.5 lbs. (45.6 kg)
Element Change Clearance:	8.50" (215 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K



Note: Application Questionnaire must be completed and submitted prior to placing order for this filter. Contact factory for details.

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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
K3/KK3/27K3	6.8	7.5	10.0	N/A	N/A
K10/KK10/27K10	15.5	16.2	18.0	N/A	N/A
KZ1/KKZ1/27KZ1	<1.0	<1.0	<1.0	<4.0	4.2
KZ3/KKZ3/27KZ3	<1.0	<1.0	<2.0	<4.0	4.8
KZ5/KKZ5/27KZ5	2.5	3.0	4.0	4.8	6.3
KZ10/KKZ10/27KZ10	7.4	8.2	10.0	8.0	10.0
KZ25/KKZ25/27KZ25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)
K3	54	KK3	108	27K3	162
K10	44	KK10	88	27K10	132
KZ1	112	KKZ1	224	27KZ1	336
KZ3	115	KKZ3	230	27KZ3	345
KZ5	119	KKZ5	238	27KZ5	357
KZ10	108	KKZ10	216	27KZ10	324
KZ25	93	KKZ25	186	27KZ25	279

Element Collapse Rating: 150 psid (10 bar) for standard elements
 Flow Direction: Outside In
 Element Nominal Dimensions:
 K: 3.9" (99 mm) O.D. x 9.0" (230 mm) long
 KK: 3.9" (99 mm) O.D. x 18.0" (460 mm) long
 27K: 3.9" (99 mm) O.D. x 27.0" (690 mm) long

Hydrostatic Base-Ported Filter

KFH50

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E (cellulose) and Z (synthetic) media
High Water Content	All Z (synthetic) media
Invert Emulsions	10 and 25 μ Z (synthetic) media
Water Glycols	3, 5, 10 and 25 μ Z (synthetic) media
Phosphate Esters	All Z (synthetic) media with H (EPR) seal designation and 3 and 10 μ E (cellulose) with H (EPR) seal designation
Skydrol®	3, 5, 10 and 25 μ Z (synthetic) media with H.5 seal designation and W (water removal) media 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
- DF40
- CF40

Skydrol is a registered trademark of Solutia Inc.

Element Selection

Based on Flow Rate

- CFX30
- RF60
- RF550
- CF60
- VF60
- KF30
- TF50

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.							
To 5000 psi (345 bar)	E Media	K3	1K3		2K3†				
		K10	1K10		2K10†				
		K25	1K25						
	Z Media	KZ1	1KZ1						
		KZ3	1KZ3		2KZ3†	3KZ3†			
		KZ5	1KZ5		2KZ5†				
		KZ10	1KZ10		2KZ10†				
	KZ25	1KZ25			2KZ25				
Flow	gpm	0	10	20	30	40	50	60	70
	(L/min)	0	50	100	150	200	265		

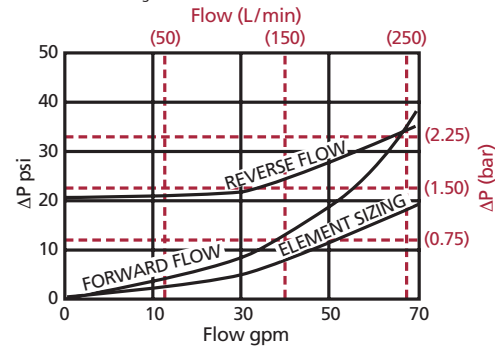
†Double and triple stacking of K-size elements can be replaced by single KK & 27K elements, respectively.

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}

KFH50 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.

Notes

ΔP_{element}

ΔP_{element} = flow x element ΔP factor x 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

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

- KFH50
- MKF50
- KC50
- KC65

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

The ΔP_{housing} curve labeled "Element Sizing" is the pressure drop between the inlet and outlet areas of the filter's bypass valve and should be used for filter sizing.

- FOF60-03
- NOF30-05
- NOF50-760
- NMF30
- RMF60

Cartridge Elements

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder KFH50:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
KFH50	-	-	-	-	-	-	-

Example: NOTE: Only box 6 may contain more than one option

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8				
KFH50	-	1	-	KZ5	-	S	-	D5	-	G509	=KFH501KZ5SD5G509

Filter Series	Number of Elements	Element Part Number			
KFH50	1	K	KK	27K	
	2	K Length	KK Length	Length	
	3	K3	KK3	27K3	= 3 μ E media (cellulose)
		K10	KK10	27K10	= 10 μ E media (cellulose)
		K25			= 25 μ E media (cellulose)
		KZ1	KKZ1	27KZ1	= 1 μ Excellement® Z media (synthetic)
		KZ3	KKZ3	27KZ3	= 3 μ Excellement Z media (synthetic)
		KZ5	KKZ5	27KZ5	= 5 μ Excellement Z media (synthetic)
		KZ10	KKZ10	27KZ10	= 10 μ Excellement Z media (synthetic)
		KZ25	KKZ25	27KZ25	= 25 μ Excellement Z media (synthetic)
		KW	KKW	27KW	= W media (water removal)
		KM10			= K size 10 μ M media (reusable metal)
		KM25			= K size 25 μ M media (reusable metal)
		KM60			= K size 60 μ M media (reusable metal)
	KM150			= K size 150 μ M media (reusable metal)	
	KM260			= K size 260 μ M media (reusable metal)	

Seal Material	Porting	Options	Dirt Alarm® Options	
Omit = Buna N	P = 1½" NPTF	Omit = None	Omit = None	
V = Viton®	S = SAE-24	L = Two ¼" NPTF inlet and outlet female test ports	Visual	D = Pointer D5 = Visual pop-up D5C = D5 in cap D9 = All stainless D5
H = EPR	F = 1½" SAE 4-bolt flange Code 62	U = Series 1215 7/16 UNF Schroeder Check® Test Point installation in cap (upstream)	Visual with Thermal Lockout	D8 = Visual w/ thermal lockout D8C = D8 in cap
H.5 = Skydrol® compatibility	O = Subplate	UU = Series 1215 7/16 UNF Schroeder Check Test Point installation in base (upstream and downstream)	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
	B = ISO 228 G-1½"		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 8 Additional Options Omit = None G509 = Dirt alarm and drain opposite standard	

NOTES:

- Box 2. Number of elements must equal 1 when using KK or 27K elements.
- Box 3. Replacement element part numbers are identical to contents of Boxes 3 and 4. Double and triple stacking of K-size elements can be replaced by single KK and 27K elements, respectively.
- Box 4. 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 5. For option F, bolt depth .75" (19 mm). For option O, O-rings included; hardware not included.