

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

70 gpm
265 L/min
5000 psi
345 bar

NF30
 NFS30
 YF30
 CFX30
 PLD
 DF40
 CF40
 PF40
 RFS50
 RF60
 CF60
 CTF60

Model No. of filter in photograph is KFH501K10SD.



INDUSTRIAL



AUTOMOTIVE
 MANUFACTURING



STEEL
 MAKING



MINING
 TECHNOLOGY



MOBILE
 VEHICLES

Applications

VF60
 LW60
 KF30
 TF50
 KF50
 KC50
 MKF50
 KC65
 NOF30-05
 NOF50-760

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), per NFPA T2.6.1
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:	Ductile Iron
Element Case:	Steel
Weight of KFH50-1K:	60.0 lbs. (27.2 kg)
Weight of KFH50-2K:	80.3 lbs. (36.4 kg)
Weight of KFH50-3K:	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

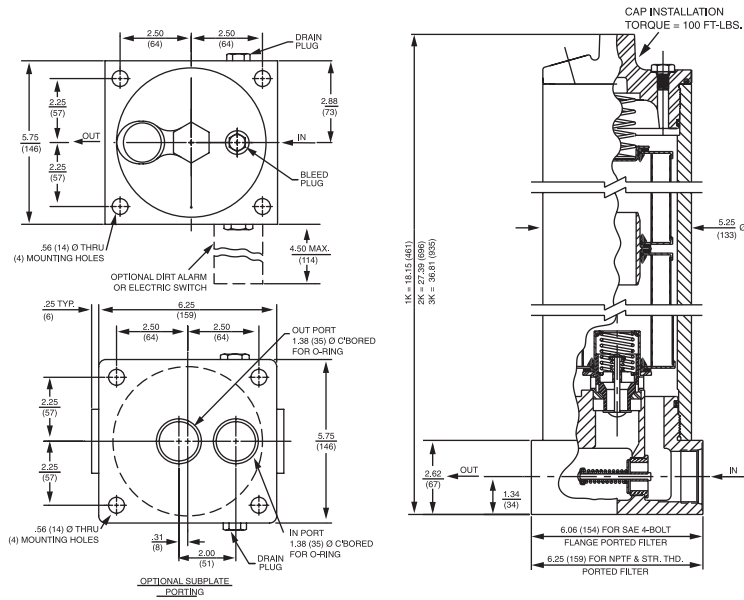
Filter Housing Specifications

FOF60-03
 NMF30
 RMF60

Cartridge Elements

HS60
 MHS60

KFH50



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/KK3/27K	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/KAS3/KKAS3/27KAS3	<1.0	<1.0	<2.0	<4.0	4.8
KZ5/KKZ5/27KZ5/KAS5/KKAS5/27KAS5	2.5	3.0	4.0	4.8	6.3
KZ10/KKZ10/27KZ10/KAS10/KKAS10/27KAS10	7.4	8.2	10.0	8.0	10.0
KZ25/KKZ25/27KZ25	18.0	20.0	22.5	19.0	24.0
KZW1	N/A	N/A	N/A	<4.0	<4.0
KZW3/KKZW3	N/A	N/A	N/A	4.0	4.8
KZW5/KKZW5	N/A	N/A	N/A	5.1	6.4
KZW10/KKZW10	N/A	N/A	N/A	6.9	8.6
KZW25/KKZW25	N/A	N/A	N/A	15.4	18.5
KZX3/KKZX3/27KZX3	<1.0	<1.0	<2.0	4.7	5.8
KZX10/KKZX10/27KZX10	7.4	8.2	10.0	8.0	9.8

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	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	KZW1	61		
KZ3/KAS3	115	KKZ3	230	27KZ3/27KAS3	345	KZW3	64	KKZW3	128
KZ5/KAS5	119	KKZ5	238	27KZ5/27KAS5	357	KZW5	63	KKZW5	126
KZ10/KAS10	108	KKZ10	216	27KZ10/27KAS10	324	KZW10	57	KKZW10	114
KZ25	93	KKZ25	186	27KZ25	279	KZW25	79	KKZW25	158
KZX3	40*	KKZX3	80	27KZX3	120				
KZX10	49*	KKZX10	98	27KZX10	147				

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:
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

*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® (synthetic)
Invert Emulsions	10 and 25 µ Z-Media® (synthetic)
Water Glycols	3, 5, 10 and 25 µ Z-Media® (synthetic)
Phosphate Esters	All Z-Media® (synthetic) with H (EPR) seal designation and 3 and 10 µ E media (cellulose) with H (EPR) seal designation
Skydrol®	3, 5, 10 and 25 µ Z-Media® (synthetic) with H.5 seal designation and W media (water removal) 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	
PLD	
DF40	

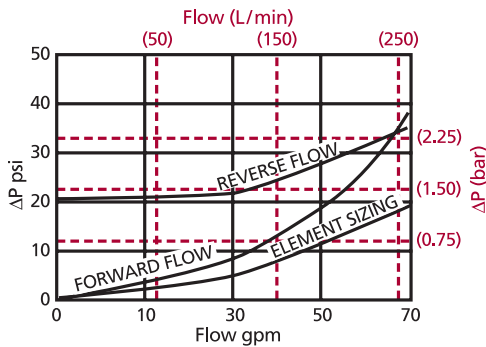
Element Selection Based on Flow Rate	
CF40	
PF40	
RFS50	
RF60	
CF60	
CTF60	
VF60	
LW60	
KF30	
TF50	

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/KAS3/KKAS3/27KAS3		2KZ3†	3KZ3†			
		KZ5	1KZ5/KAS5/KKAS5/27KAS5		2KZ5†				
		KZ10	1KZ10/KAS10/KKAS10/27KAS10		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.

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

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.

ΔP_{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/KAS3/KKAS3/27KAS3	.10	.05	.03
KZ5/KAS5/KKAS5/27KAS5	.08	.04	.02
KZ10/KAS10/KKAS10/27KAS10	.05	.03	.02
KZ25	.04	.02	.01

	1K	2K
KZW1	.43	
KZW3	.32	.16
KZW5	.28	.14
KZW10	.23	.12
KZW25	.14	.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

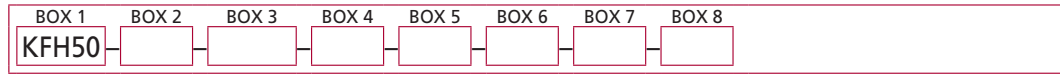
KF50
KC50
MKF50
KC65
NOF30-05
NOF50-760
FOF60-03
NMF30
RMF60
Cartridge Elements

HS60
MHS60

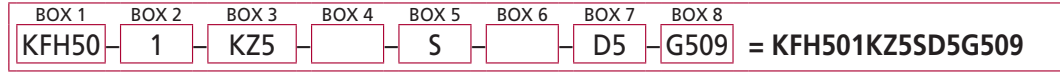
KFH50

Filter Model Number Selection

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



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



Filter Series	Number of Elements	Element Part Number				Seal Material
KFH50	1	K	KK	27K		Omit = Buna N V = Viton® H = EPR H.5 = Skydrol® compatibility
	2	Length	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)		
	KZW1			= 1 µ Aqua-Excellement™ ZW media		
	KZW3	KKZW3		= 3 µ Aqua-Excellement™ ZW media		
	KZW5	KKZW5		= 5 µ Aqua-Excellement™ ZW media		
	KZW10	KKZW10		= 10 µ Aqua-Excellement™ ZW media		
	KZW25	KKZW25		= 25 µ Aqua-Excellement™ ZW media		
	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)			

BOX 5
Porting
P = 1½" NPTF
S = SAE-24
F = 1½" SAE 4-bolt flange Code 62
O = Subplate
B = ISO 228 G-1½"

BOX 6	BOX 7
Options	Dirt Alarm® Options
Omit = None	Omit = None
L = Two ¼" NPTF inlet and outlet female test ports	D = Pointer
U = Series 1215 7/16 UNF Schroeder Check Test Point installation in cap (upstream)	D5 = Visual pop-up
UU = Series 1215 7/16 UNF Schroeder Check Test Point installation in block (upstream and downstream)	D5C = D5 in cap
	D9 = All stainless D5
	D8 = Visual w/ thermal lockout
	D8C = D8 in cap
	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
	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
	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)
	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. ZW media not available in 27K length.
- 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.