

Tank-Mounted Filter

KFT



Features and Benefits

- Low pressure tank-mounted filter
- Meets HF4 automotive standard
- Multiple inlet/outlet porting options
- Top, side or bottom mounting
- Optional check valve prevents reservoir siphoning
- Can also be used in return line application (contact factory)
- Double stacking of K-size element can be replaced by single KK element
- Allows consolidation of inventoried replacement elements by using K-size elements
- Also available with DirtCatcher® elements (KD and KKD)

100 gpm
380 L/min
100 psi
7 bar

IRF
 TF1
 KF3
 KL3
 LF1-2"
 MLF1
 RLD
 GRTB
 MTA
 MTB
 ZT

Model No. of filter in photograph is KFT1K10P24P24NB



INDUSTRIAL



MARINE



MINING
 TECHNOLOGY



MOBILE
 VEHICLES

Applications

KFT

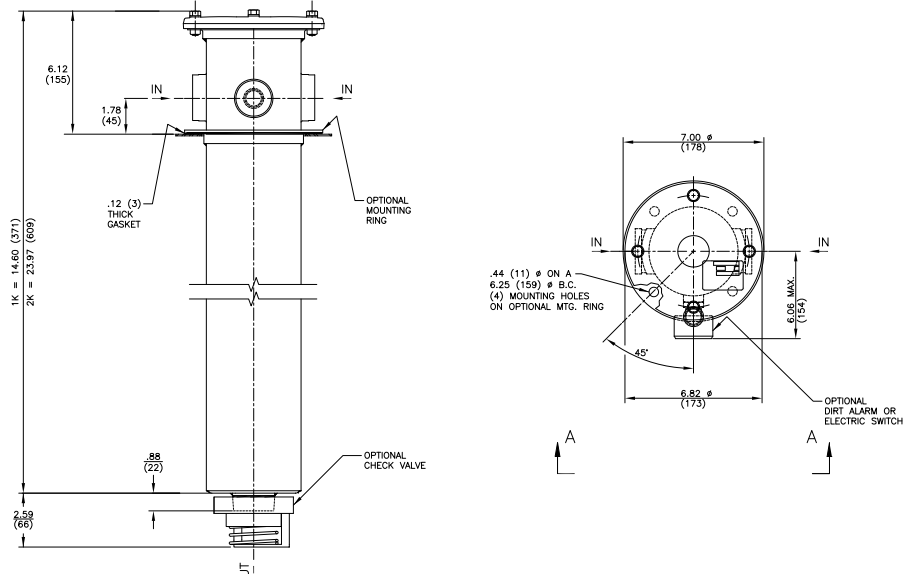
RT
 RTI
 LRT
 ART
 BFT
 QT
 KTK
 LTK

Flow Rating:	Up to 100 gpm (380 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	400 psi (28 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	Contact Factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 25 psi (1.7 bar) Full Flow: 48 psi (3.3 bar)
Porting Head:	Steel
Porting Cap:	Die Cast Aluminum (standard); Steel (optional)
Element Case:	Steel
Weight of KFT-1K:	10.0 lbs. (4.5 kg)
Weight of KFT-2K:	13.6 lbs. (6.2 kg)
Element Change Clearance:	8.0" (205 mm) for 1K; 17.50" (445 mm) for KK; 26.5" (673 mm) for 27K

Filter Housing Specifications

Accessories for Tank-Mounted Filters

MRT
 PAF1
 MAF1
 MF2



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	6.8	7.5	10.0	N/A	N/A
K10/KK10	15.5	16.2	18.0	N/A	N/A
KZ1/KKZ1	<1.0	<1.0	<1.0	<4.0	4.2
KZ3/KKZ3/KAS3/KKAS3	<1.0	<1.0	<2.0	<4.0	4.8
KZ5/KKZ5/KAS5/KKAS5	2.5	3.0	4.0	4.8	6.3
KZ10/KKZ10/KAS10/KKAS10	7.4	8.2	10.0	8.0	10.0
KZ25/KKZ25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)
K3	54	KK3	108				
K10	44	KK10	88				
KZ1	112	KKZ1	224	KDZ1	89	KKDZ1	188
KZ3/KAS3	115	KKZ3/KKAS3	230	KDZ3	71	KKDZ3	150
KZ5/KAS5	119	KKZ5/KKAS5	238	KDZ5	100	KKDZ5	210
KZ10/KAS10	108	KKZ10/KKAS10	216	KDZ10	80	KKDZ10	168
KZ25	93	KKZ25	186	KDZ25	81	KKDZ25	171

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

Tank-Mounted Filter



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), 3, 5 and 10 µ ASP media (synthetic)
Phosphate Esters	All Z-Media® (synthetic) with H (EPR) seal designation, ASP media (synthetic) 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, ASP media (synthetic) 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

IRF
TF1
KF3
KL3
LF1-2"

Skydrol® is a registered trademark of Solutia Inc.

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 25 psi (1.7 bar) bypass valve.				
	Series	Part No.					
Return Line -Tank-Mounted	E Media	K3	1K3		2K3 [†]		
		K10	1K10		2K10 [†]		
		K25	1K25		2K25 [†]		
	Z-Media®	KZ1	1KZ1		2KZ1 [†]		
		KZ3	1KZ3		2KZ3 [†]		
		KZ5	1KZ5		2KZ5 [†]		
		KZ10	1KZ10				
		KZ25	1KZ25				
	Flow	gpm	0	40	60	80	100
		(L/min)	0	50	150	250	380

Element Selection Based on Flow Rate

MLF1
RLD
GRTB
MTA
MTB
ZT

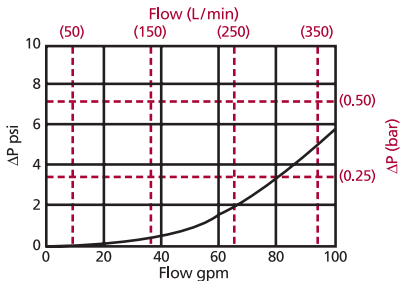
[†]Double and triple stacking of K-size elements can be replaced by single KK element, respectively.

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}

KFT 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.

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

Exercise:

Determine ΔP at 80 gpm (300 L/min) for KFT2K10P24 using 200 SUS (44 cSt) fluid.

Solution:

$$\begin{aligned} \Delta P_{\text{housing}} &= 3.0 \text{ psi } [.20 \text{ bar}] \\ \Delta P_{\text{element}} &= 80 \times .05 \times (200 \div 150) = 5.3 \text{ psi} \\ &\text{or} \\ &= [300 \times (.05 \div 54.9) \times (44 \div 32) = .38 \text{ bar}] \\ \Delta P_{\text{total}} &= 3.0 + 5.3 = 8.3 \text{ psi} \\ &\text{or} \\ &= [.20 + .38 = .58 \text{ bar}] \end{aligned}$$

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	1K	2K
K3	.25	.12		
K10	.09	.05		
K25	.02	.01		
KZ1	.20	.10	KDZ1	.24 .12
KZ3/KAS3	.10	.05	KDZ3	.12 .06
KZ5/KAS5	.08	.04	KDZ5	.10 .05
KZ10/KAS10	.05	.03	KDZ10	.06 .03
KZ25	.04	.02	KDZ25	.04 .02

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

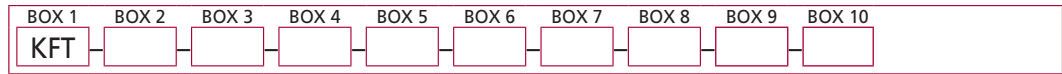
KFT
RT
RTI
LRT
ART
BFT
QT
KTK
LTK
MRT

Accessories for Tank-Mounted Filters

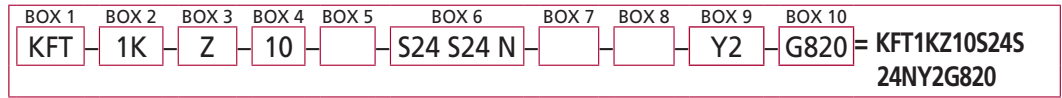
PAF1
MAF1
MF2

Filter Model Number Selection

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

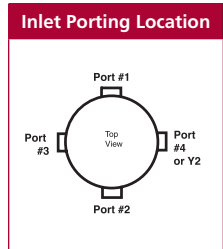


Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Element Size and Length	Media Type	Element Part Number
KFT	1 K, KK 2 K	Omit = E media (cellulose) Z = Excellement® Z-Media® (synthetic) AS = Anti-Stat Pleat media (synthetic) ZW = Aqua-Excellement™ ZW media DZ = Dirtcatcher® with Excellement® Z-Media®	1 = 1 μ Z, ZW, and DZ media 3 = 3 μ AS, E, Z, ZW, and DZ media 5 = 5 μ AS, Z, ZW, and DZ media 10 = 10 μ AS, E, M, Z, ZW, and DZ media 25 = 25 μ E, M, Z, ZW, and DZ media

BOX 5	BOX 6 Specification of all 4 ports is required			
Seal Material	Inlet Porting			
Omit = Buna N H = EPR V = Viton® H.5 = Skydrol® Compatibility	Port 1 (Standard)	Port 2 (Optional)	Port 3 (Optional)	Port 4 (Optional)
	N = None	N = None	N = None	N = None
	P12 = ¾" NPTF	P12 = ¾" NPTF	P8 = ½" NPTF P12 = ¾" NPTF	P8 = ½" NPTF P12 = ¾" NPTF
	P16 = 1" NPTF	P16 = 1" NPTF	P16 = 1" NPTF	P16 = 1" NPTF
	P20 = 1¼" NPTF	P20 = 1¼" NPTF	P20 = 1¼" NPTF	P20 = 1¼" NPTF
	P24 = 1½" NPTF	P24 = 1½" NPTF	P24 = 1½" NPTF	P24 = 1½" NPTF
	P32 = 2" NPTF	P32 = 2" NPTF	P32 = 2" NPTF	P32 = 2" NPTF
	S8 = SAE-8	S8 = SAE-8	S8 = SAE-8	S8 = SAE-8
	S12 = SAE-12	S12 = SAE-12	S12 = SAE-12	S12 = SAE-12
	S16 = SAE-16	S16 = SAE-16	S16 = SAE-16	S16 = SAE-16
	S20 = SAE-20	S20 = SAE-20	S20 = SAE-20	S20 = SAE-20
	S24 = SAE-24	S24 = SAE-24	S24 = SAE-24	S24 = SAE-24



NOTES:

- Box 2. Number of elements must equal 1 when using KK elements.
- Box 3. Replacement element part numbers are identical to contents of Boxes 2, 3 and 4. K specifies one 9" element; KK specifies one 18" element. Example: KKZ10
- Box 5. H.5 seal designation includes the following: EPR seals, stainless steel wire mesh on elements, and light oil coating on housing exterior. Skydrol® is a registered trademark of Solutia Inc. Viton® is a registered trademark of DuPont Dow Elastomers.
- Box 7. See also "Accessories for Tank-Mounted Filters," page 295.

BOX 7	BOX 8	BOX 9
Outlet Porting Options	Optional Mounting Flange	Dirt Alarm® Options
Omit = 1½" NPT male C = Check valve D = Diffuser CD = Check valve & diffuser T = 13" Tube extension A = Non-threaded outlet	Omit = None B = Flange with 4 holes BW = Flange with no holes	Omit = None Visual Y2 = Back-mounted tri-color gauge (Port 4) (Not available with 4 ports) Y2C = Bottom-mounted tri-color gauge in cap Y5 = Back-mounted gauge in cap Electrical ES = Electric switch (located on filter housing - not available with 4 ports) ES1 = Heavy-duty electric switch with conduit connector

BOX 10
Additional Options
Omit = None G2293 = Cork gasket G820 = Steel cap