

Tank-Mounted Filter **KT**



Features and Benefits

- Low pressure tank-mounted filter
- Bypass valve included in the element
- Offered in pipe, SAE straight thread and ISO 228 porting
- Space saver, reduces plumbing
- Visual gauge or electrical switch dirt alarms

Model No. of filter in photograph is KTKBZ01BB20N.



INDUSTRIAL



AUTOMOTIVE
MANUFACTURING



MACHINE
TOOL



MINING
TECHNOLOGY



STEEL
MAKING



MARINE



MOBILE
VEHICLES

80 gpm
300 L/min

50 psi
3.5 bar

ST
SKB
Housings
MTA
MTB
ZT
KT
RT
RTI
KFT
LRT
BFT
QT
KTK
LTK

Accessories
for Tank-
Mounted
Filters

Applications

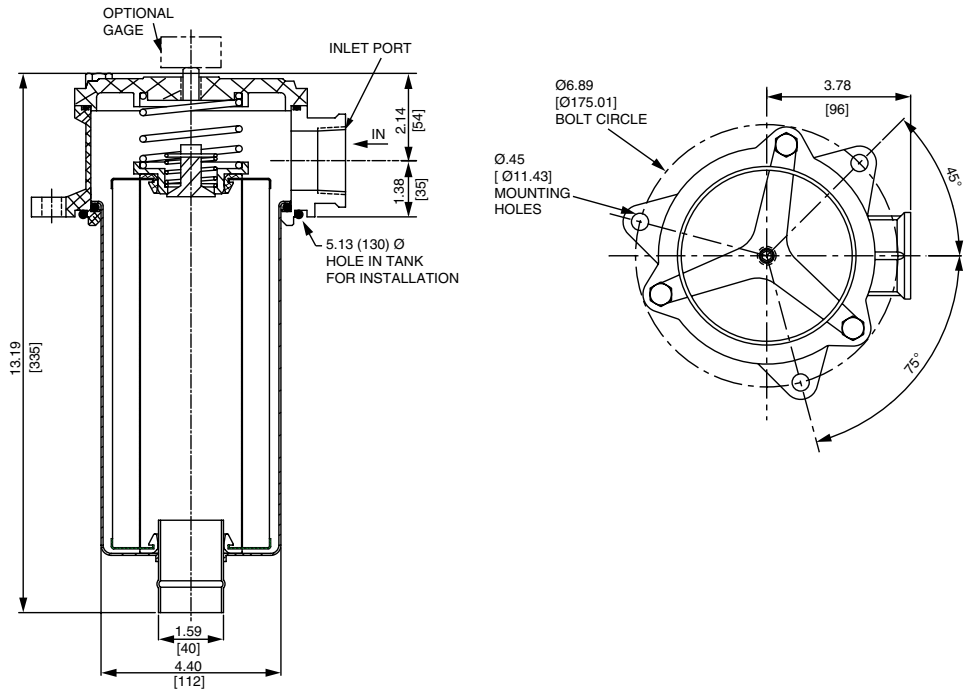
PAF1
MAF1
MF2
TF1
KF3
LF1—2"
MLF1
SRLT
RLT
KF8

Filter Housing Specifications

K9
2K9
3K9
QF15
QLF15
SSQLF15
QFD5

Flow Rating:	Up to 80 gpm (300 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	50 psi (3.5 bar)
Min. Yield Pressure:	190 psi (13 bar)
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: 42 psi (2.9 bar)
Porting Base & Cap: Element Case:	Die Cast Aluminum Steel
Weight:	5.6 Lbs. (2.5 kg)
Element Change Clearance:	8.0" (203 mm)

KT Tank-Mounted Filter



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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
KBE03B	6.8	7.5	10.0	N/A	N/A
KBE10B	15.5	16.2	18.0	N/A	N/A
KBZ01B	<1.0	<1.0	<1.0	<4.0	4.2
KBZ03B	<1.0	<1.0	<2.0	4.0	4.8
KBZ05B	2.5	3.0	4.0	4.8	6.3
KBZ10B	7.4	8.2	10.0	8.0	10.0
KBZ25B	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)
KBE03B	54
KBE10B	44
KBZ01B	112
KBZ03B	115
KBZ05B	119
KBZ10B	108
KBZ25B	93

Element Collapse Rating: 150 psid (10 bar) for standard elements

Flow Direction: Outside In

Element Nominal Dimensions: 3.9" (99 mm) O.D. x 9.0" (230 mm) long

Tank-Mounted Filter **KT**

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E (cellulose) and Z (synthetic) media

Fluid Compatibility

- ST
- SKB
Housings
- MTA
- MTB
- ZT

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.					
To 50 psi (3.5 bar)	E Media	KBE03	KBE03				
		KBE10		KBE10			
		KBE25		KBE25			
	Z Media	KBZ01	KBZ01				
		KBZ03		KBZ03			
		KBZ05		KBZ05			
		KBZ10		KBZ10			
		KBZ25		KBZ25			
Flow	gpm	0	20	40	60	80	
	(L/min)	0	50	150	250	300	

Element Selection Based on Flow Rate

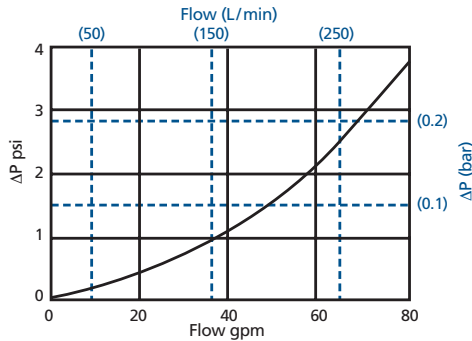
- KT**
- RT
- RTI
- KFT
- LRT
- BFT
- QT
- KTK
- LTK

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.

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

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

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

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

El. ΔP factors @ 150 SUS (32 cSt):

KBE03B	.25
KBE10B	.09
KBE25B	.02
KBZ01B	.20
KBZ03B	.10
KBZ05B	.08
KBZ10B	.05
KBZ25B	.04

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

Accessories for Tank- Mounted Filters

- PAF1
- MAF1
- MF2
- TF1
- KF3
- LF1—2"
- MLF1
- SRLT
- RLT
- KF8
- K9
- 2K9
- 3K9
- QF15
- QLF15
- SSQLF15
- QFD5

Notes

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

Exercise:

Determine ΔP at 60 gpm (227 L/min) for KTKBZ05BB20N using 200 SUS (44 cSt) fluid.

Solution:

$$\Delta P_{\text{housing}} = 2.1 \text{ psi } [.14 \text{ bar}]$$

$$\begin{aligned} \Delta P_{\text{element}} &= 60 \times .08 \times (200 \div 150) = 6.4 \text{ psi} \\ &\text{or} \\ &= [227 \times (.08 \div 54.9) \times (44 \div 32)] = .45 \text{ bar} \end{aligned}$$

$$\begin{aligned} \Delta P_{\text{total}} &= 2.1 + 6.4 = 8.5 \text{ psi} \\ &\text{or} \\ &= [.14 + .45 = .59 \text{ bar}] \end{aligned}$$

KT Tank-Mounted Filter

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
KT	-		-	

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5					
KT	-	KBE3	-	B	-	P20	-		= KTKBE3BP20

BOX 1	BOX 2	BOX 3
Filter Series	Element Part Number	Seal Material
KT	KBE3 = K size 3 μ E media (cellulose) KBE10 = K size 10 μ E media (cellulose) KBE25 = K size 25 μ E media (cellulose) KBZ01 = K size 1 μ Excellement® Z media (synthetic) KBZ03 = K size 3 μ Excellement Z media (synthetic) KBZ05 = K size 5 μ Excellement Z media (synthetic) KBZ10 = K size 10 μ Excellement Z media (synthetic) KBZ25 = K size 225 μ Excellement Z media (synthetic)	B = Buna N

BOX 4	BOX 5
Porting	Dirt Alarm® Options
P20 = 1¼" NPTF	Omit = None
S20 = SAE-20	Visual Y2C = Bottom-mounted gauge in cap
B20 = ISO 228 G-1¼"	Electrical ESC = Electric switch (2 terminals)

NOTE:
 Box 2. KB elements have integral bypass valve.
 Replacement element part numbers are a combination of Boxes 2 and 3.