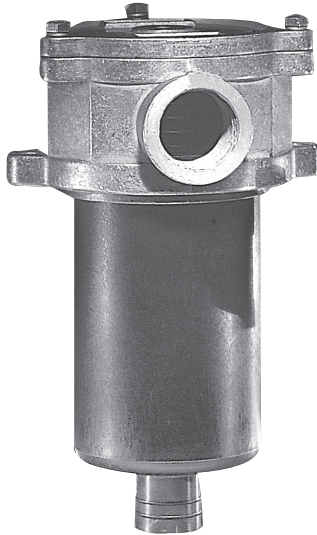


# MiniMiser™ Tank-Mounted Filter

**MTB**



## Features and Benefits

- Low pressure tank-mounted filter
- Compact size minimizes space requirements
- Minimizer is cost-effective alternative to spin-on filters
- Special filter element design provides aftermarket benefits

Model No. of filter in photograph is MTB5TBZ5P16.



INDUSTRIAL



AUTOMOTIVE  
MANUFACTURING



MOBILE  
VEHICLES



PULP & PAPER



AGRICULTURE

**35 gpm**  
**135 L/min**  
**100 psi**  
**7 bar**

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

## Applications

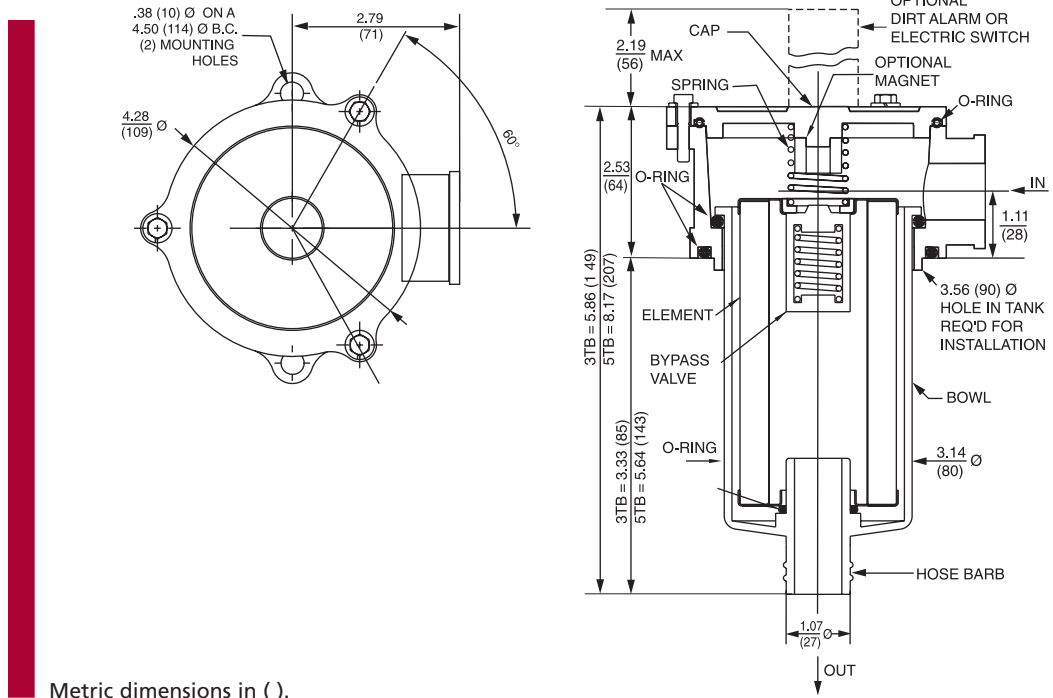
ZT  
KFT  
RT  
RTI  
LRT  
ART  
BFT  
QT  
KTK  
LTK

**Filter Housing Specifications** Accessories for Tank-Mounted Filters

MRT  
PAF1  
MAF1  
MF2

Flow Rating:	Up to 25 gpm (95 L/min) for 150 SUS (32 cSt) fluids–MTB-3 Up to 35 gpm (135 L/min) for 150 SUS (32 cSt) fluids–MTB-5
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	229 psi (15 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 (2 bar) Full Flow: 51 psi (3.5 bar)
Porting Head & Cap: Element Case:	Die Cast Aluminum Glass Filled Nylon
Weight of MTB-3: Weight of MTB-5:	1.8 lbs. (0.8 kg) 2.1 lbs. (1.0 kg)
Element Change Clearance:	3.0" (76 mm) MTB-3 5.0" (127 mm) MTB-5

# MiniMiser™ 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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
3TB10	15.5	16.2	18.0	N/A	N/A
3TBZ3	<1.0	<1.0	<2.0	<4.0	4.8
3TBZ5	2.5	3.0	4.0	4.8	6.3
3TBZ10	7.4	8.2	10.0	8.0	10.0
3TBZ25	18.0	20.0	22.5	19.0	24.0
5TB10	15.5	16.2	18.0	N/A	N/A
5TBZ3	<1.0	<1.0	<2.0	4.7	5.8
5TBZ5	2.5	3.0	4.0	5.6	7.2
5TBZ10	7.4	8.2	10.0	8.0	9.8
5TBZ25	18.0	20.0	22.5	19.0	24.0

## Dirt Holding Capacity

Element	DHC (gm)
3TB10	N/A
3TBZ3	11
3TBZ5	12
3TBZ10	11
3TBZ25	11
5TB10	N/A
5TBZ3	18
5TBZ5	21
5TBZ10	17
5TBZ25	18

Element Collapse Rating: 150 psid (10 bar)  
 Flow Direction: Outside In  
 Element Nominal Dimensions: 3TB: 3.0" (76 mm) O.D. x 3.0" (76 mm) long  
 5TB: 3.0" (76 mm) O.D. x 5.0" (127 mm) long

# MiniMiser™ Tank-Mounted Filter

# MTB

Type Fluid    Appropriate Schroeder Media

Petroleum Based Fluids    All E media (cellulose) and Z-Media® (synthetic)

**Fluid Compatibility**

IRF  
TF1  
KF3  
KL3

**Element Selection Based on Flow Rate**

LF1-2"  
MLF1  
RLD  
GRTB  
MTA

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	10	See MTA	3TB10	5TB10				
		25	See MTA		3TB25	5TB25			
		Z3	See MTA	3TBZ3	5TBZ3				
	Z-Media®	Z5	See MTA	3TBZ5		5TBZ5			
		Z10	See MTA	3TBZ10		5TBZ10			
		Z25	See MTA	3TBZ25		5TBZ25			
Flow	gpm	0	5	10	15	20	25	30	35
	(L/min)	0	(25)	(50)	(75)	(100)	(135)		

Shown above are the elements most commonly used in this housing.

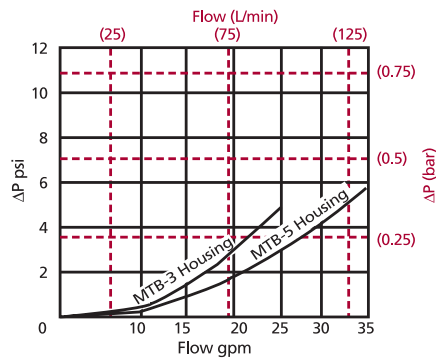
Note: Contact factory regarding use of E media in High Water Content, Invert Emulsion and Water Glycol Applications. For more information, refer to Fluid Compatibility: Fire Resistant Fluids, pages 19 and 20.

**MTB**

ZT  
KFT

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

MTB  $\Delta P_{\text{housing}}$  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.  $\Delta P$  factors @ 150 SUS (32 cSt):

	3"	5"
<b>TB10</b>	.73	.40
<b>TB25</b>	.10	.08
<b>TBZ1</b>	1.17	.70
<b>TBZ3</b>	.66	.36
<b>TBZ5</b>	.45	.25
<b>TBZ10</b>	.49	.25
<b>TBZ25</b>	.33	.16

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**

RT  
RTI  
LRT  
ART  
BFT  
QT  
KTK  
LTK  
MRT

## Notes

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

### Exercise:

Determine  $\Delta P$  at 25 gpm (95 L/min) for MTB5TB25S16Y2C using 200 SUS (44 cSt) fluid.

### Solution:

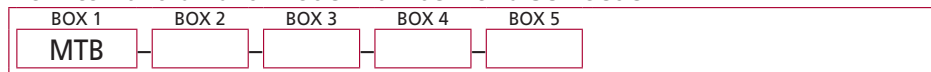
$$\begin{aligned} \Delta P_{\text{housing}} &= 3.0 \text{ psi } [.21 \text{ bar}] \\ \Delta P_{\text{element}} &= 25 \times .08 \times (200 \div 150) = 2.6 \text{ psi} \\ &\text{or} \\ &= [95 \times (.08 \div 54.9) \times (44 \div 32)] = .19 \text{ bar} \\ \Delta P_{\text{total}} &= 3.0 + 2.6 = 5.6 \text{ psi} \\ &\text{or} \\ &= [.21 + .19] = .40 \text{ bar} \end{aligned}$$

Accessories for Tank-Mounted Filters

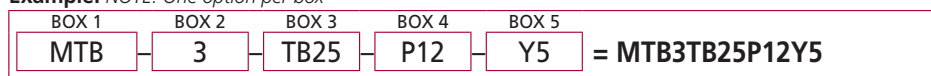
PAF1  
MAF1  
MF2

## Filter Model Number Selection

### How to Build a Valid Model Number for a Schroeder MTB:



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3
Filter Series	Element Length (in)	Element Size and Media
MTB	3	TB10 = T size 10 μ E media (cellulose)
	5	TB25 = T size 25 μ E media (cellulose)
		TBZ3 = T size 3 μ Excellement® Z-Media® (synthetic)
		TBZ5 = T size 5 μ Excellement® Z-Media® (synthetic)
		TBZ10 = T size 10 μ Excellement® Z-Media® (synthetic)
		TBZ25 = T size 25 μ Excellement® Z-Media® (synthetic)

BOX 4	BOX 5
Porting Options	Dirt Alarm® Options
P12 = 3/4" NPTF	Omit = None
P16 = 1" NPTF	Visual Y2C = Bottom-mounted gauge in cap Y5 = Back-mounted gauge in cap
S12 = SAE-12	
S16 = SAE-16	Electrical ESC = Electric pressure switch (2 terminals)
B12 = ISO 228 G-3/4"	
B16 = ISO 228 G-1"	

NOTE:

Box 2. Replacement element part numbers are a combination of Boxes 2 and 3.  
Example: 3TB10