

Spin-On Filter

MF2



Features and Benefits

- Spin-On with full ported cast iron head for minimal pressure drop
- Offered in pipe, SAE straight thread and ISO 228 porting
- Spin-On thread = 1.50-16UN-2B
- Various Dirt Alarm® options
- Available in 7" and 10" element lengths

60 gpm
230 L/min
150 psi
10 bar

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

Model No. of filter in photograph is MF27M10SD5.



INDUSTRIAL



MOBILE VEHICLES



AUTOMOTIVE MANUFACTURING



MACHINE TOOL



STEEL MAKING



AGRICULTURE



PULP & PAPER



MINING TECHNOLOGY

Applications

KFT
 RT
 RTI
 LRT
 ART
 BFT
 QT
 KTK
 LTK
 MRT

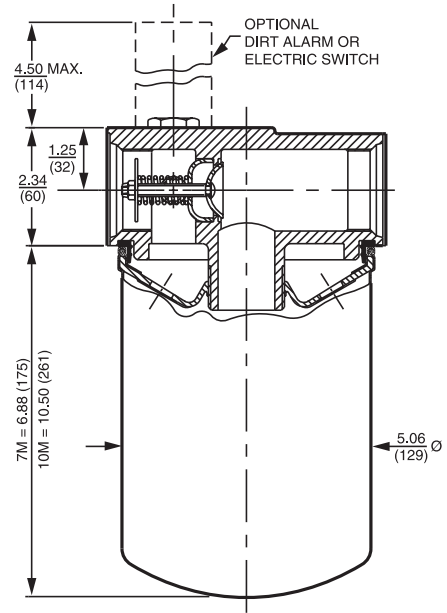
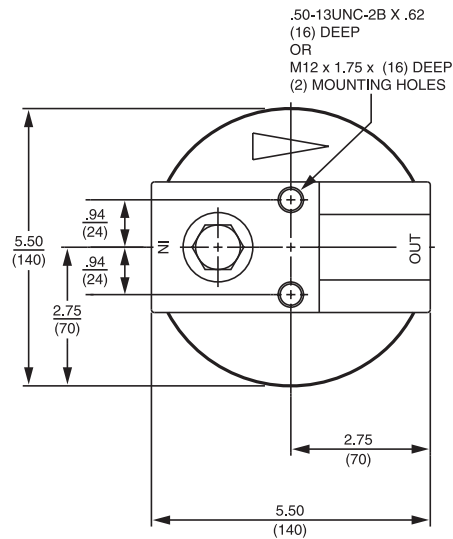
Flow Rating:	Up to 60 gpm (230 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	150 psi (10 bar)
Min. Yield Pressure:	250 psi (17 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	Contact factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 30 psi (2 bar) Full Flow: 48 psi (3 bar)
Porting Head:	Cast Iron
Element Case:	Steel
Weight of MF2-7M:	8.6 lbs. (3.9 kg)
Element Change Clearance:	1.50" (40 mm)

Filter Housing Specifications

Accessories for Tank-Mounted Filters

PAF1
 MAF1

MF2



Installation instructions included on element.

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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
7M3	6.8	7.5	10.0	N/A	N/A
7M10	15.5	16.2	18.0	N/A	N/A
7MZ3/10MZ3	<1.0	<1.0	<2.0	<4.0	4.8
7MZ10/10MZ10	7.4	8.2	10.0	8.0	10.0
10MZW10	N/A	N/A	N/A	6.9	8.6

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)
7M3	50		
7M10	37		
7MZ3	105		
7MZ10	104	10MZW10	53

Element Collapse Rating: 100 psid (7 bar)

Flow Direction: Outside In

Element Nominal Dimensions: 7M: 5.0" (125 mm) O.D. x 7.0" (180 mm) long
10M: 5.0" (125 mm) O.D. x 10.5" (261 mm) long

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E media (cellulose) and Z-Media® (synthetic)
High Water Content	3 and 10 μ Z-Media® (synthetic)
Invert Emulsions	10 μ Z-Media® (synthetic)
Water Glycols	3 and 10 μ Z-Media® (synthetic)

Fluid Compatibility

IRF
TF1
KF3
KL3

Pressure	Element		Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 30 psi (2.1 bar) bypass valve.				
	Series	Part No.					
To 150 psi (10 bar)	E Media	7M3	7M3		See RLT		
		7M10	7M10		See RLT		
	Z- Media®	7MZ3	7MZ3		See RLT		
		7MZ10	7MZ10		See RLT		
Flow	gpm	0	20	30	40	50	60
	(L/min)	0	50	100	150		230

Element Selection Based on Flow Rate

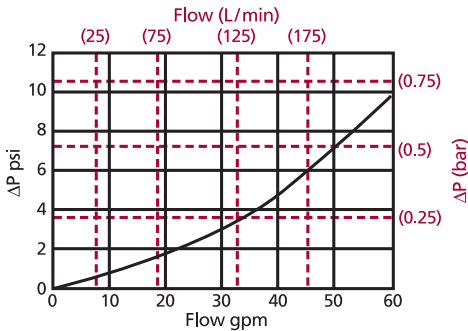
LF1-2"
MLF1
RLD
GRTB
MTA
MTB

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}

MF2 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.

ΔP_{element}

ΔP_{element} = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

7M3	.23
7M10	.14
7MZ3	.22
7MZ10	.17

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

Notes

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

Exercise:

Determine ΔP at 30 gpm (115 L/min) for MF27MZ3D5 using 200 SUS (44 cSt) fluid.

Solution:

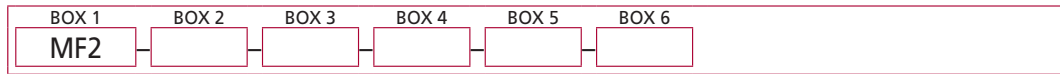
$$\begin{aligned} \Delta P_{\text{housing}} &= 3.0 \text{ psi } [.22 \text{ bar}] \\ \Delta P_{\text{element}} &= 30 \times .22 \times (200 \div 150) = 8.8 \text{ psi} \\ &\text{or} \\ &= [115 \times (.22 \div 54.9) \times (44 \div 32) = .63 \text{ bar}] \\ \Delta P_{\text{total}} &= 3.0 + 8.8 = 11.8 \text{ psi} \\ &\text{or} \\ &= [.22 + .63 = .83 \text{ bar}] \end{aligned}$$

Accessories for Tank-Mounted Filters

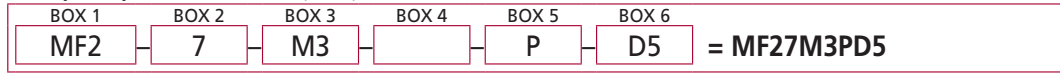
PAF1
MAF1

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder MF2:



Example: Option 1 NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Element Length (in)	Element Size and Media	Seal Material	Porting Options
MF2	7 10	M3 = M size 3 μ E media (cellulose) M10 = M size 10 μ E media (cellulose) MZ3 = M size 3 μ Excellement® Z-Media® (synthetic) MZ10 = M size 10 μ Excellement® Z-Media® (synthetic) MZW10 = M size 10 μ Aqua-Excellement™ ZW media MW = M size W media (water removal)	Omit = None V = Viton®	P = 1¼" NPTF S = SAE-20 B = ISO 228 G-1¼"

BOX 6	
Dirt Alarm® Options	
	Omit = None
Visual	D5 = Visual pop-up
Visual with Thermal Lockout	D8 = Visual w/ thermal lockout
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
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	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

NOTES:

Box 2. Replacement element part numbers are a combination of Boxes 2, 3, and 4. Replacement element part numbers for 7" length begin with M. Replacement element part numbers for 10" length begin with 10M.
 Example: M3; 10MZ3
 10" only available with MZ3 and MZ10.

Box 3. ZW media only available for 10" element.

Box 4. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 5. B porting option supplied with metric mounting holes.