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

Model No. of filter in photograph is MF27M10SD5.

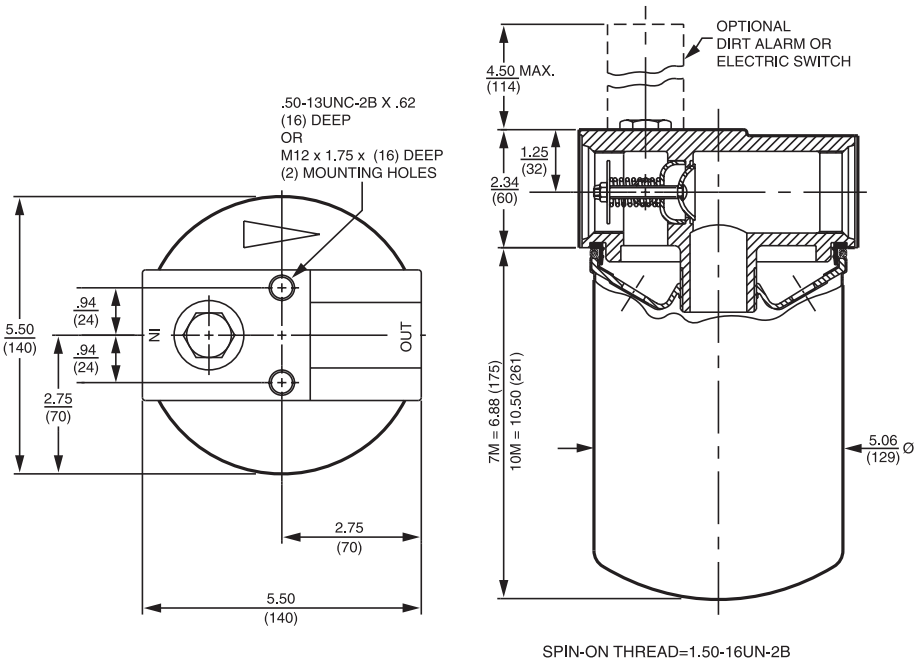
Applications

INDUSTRIAL
MOBILE VEHICLES
AUTOMOTIVE MANUFACTURING
MACHINE TOOL
STEEL MAKING
AGRICULTURE
PULP & PAPER
MINING TECHNOLOGY

Filter Housing Specifications

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: Element Case:	Cast Iron Steel
Weight of MF2-7M:	8.6 lbs. (3.9 kg)
Element Change Clearance:	1.50" (40 mm)

MF2 Spin-On Filter



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

Fluid Compatibility

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)

Element Selection
Based on Flow Rate

Pressure	Element Series	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 30 psi (2.1 bar) bypass valve.
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

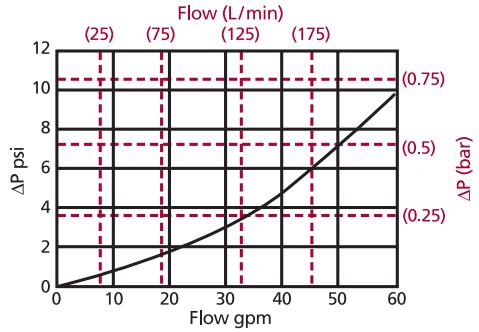
Shown above are the elements most commonly used in this housing.

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.*

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

MF2 $\Delta P_{housing}$ for fluids with sp gr = 0.86:



sp gr = specific gravity

$\Delta P_{element}$

$\Delta P_{element}$ = 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).

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

Notes

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

Exercise:

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

Solution:

$\Delta P_{housing}$ = 3.0 psi [.22 bar]

$\Delta P_{element}$ = 30 x .22 x (200÷150) = 8.8 psi
or
= [115 x (.22÷54.9) x (44÷32) = .63 bar]

ΔP_{total} = 3.0 + 8.8 = 11.8 psi
or
= [.22 + .63 = .83 bar]

MF2 Spin-On Filter

Filter Model Number Selection

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

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6
MF2					

Example: Option 1 *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	
MF2	7	M3		P	D5	**= MF27M3PD5**

BOX 1

Filter Series
MF2

BOX 2

Element Length (in)
7
10

BOX 3

Element Size and Media
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)

BOX 4

Seal Material
Omit = None
V = Viton®

BOX 5

Porting Options
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.