Spin-On Filter SAF1

Model No. of filter in photograph is:
SAF16P10S.

Features and Benefits

- Spin on Steel head designed for use in application require steel rather than aluminum.
- Offered in SAE straight thread porting
- Spin-On thread = 1.00-12UNF-2B
- Visual gauge or electrical switch dirt alarms
- Small profile for use in limited space

20 gpm
75 L/min

100 psi
7 bar

Applications


INDUSTRIAL


MOBILE VEHICLES


AUTOMOTIVE MANUFACTURING


MINING


AGRICULTURE


MACHINE TOOL


STEEL MAKING

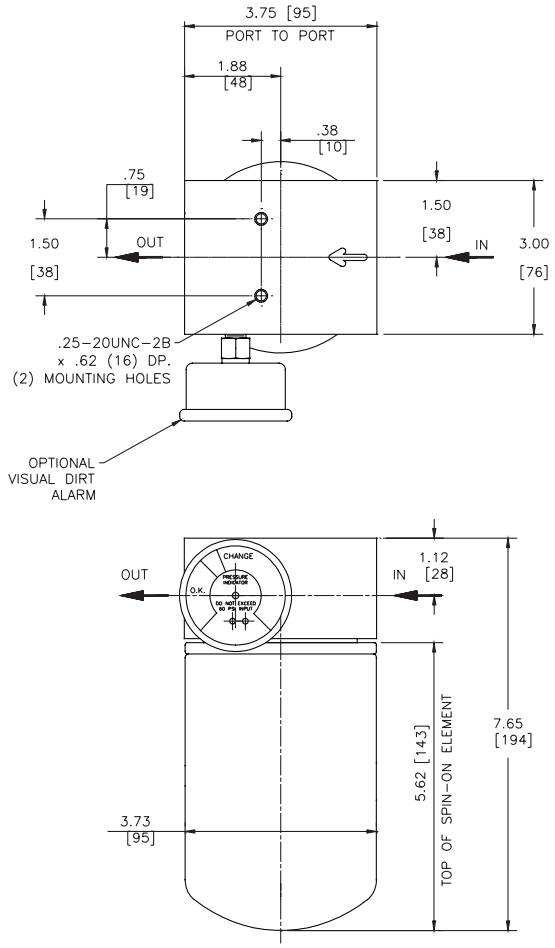

OFFSHORE


PAPER INDUSTRY

Filter Housing Specifications

Flow Rating:	Up to 20 gpm (75 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	150 psi (10 bar)
Rated Fatigue Pressue:	Contact Factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 25 psi (1.72 bar) Full Flow: 41 psi (2.8 bar)
Porting Head/Cap: Element Case:	Steel Steel
Weight of SAF1-6P:	6.2 lbs (2.8 kg)
Element Change Clearance:	2.50” (65 mm)

SAF1 Spin-On Filter



Metric dimensions in ( ).

Installation instructions included on element.

Element Performance Information

Element	Filtration Ration 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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x (c) \geq 200$	$\beta_x (c) \geq 1000$
P10	15.5	16.2	18.0	N/A	N/A
PZ10	7.4	8.2	10.0	8.0	10.0
PZ25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)
P10	37
PZ10	N/A
PZ25	N/A

Element Collapse Rating: 100 psid (1 bar)
Flow Direction: Outside In
Element Nominal Dimensions: 3.75” (95 mm) O.D. x 5.5” (140 mm) long

Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	10 µ E (cellulose) and 25 µ Z (synthetic) media
High Water Content	25 µ Z (synthetic) media
Invert Emulsions	25 µ Z (synthetic) media
Water Glycols	25 µ Z (synthetic) media

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 25 psi (1.72 bar) bypass valve.
To 100 psi (7 bar)	E Media	P10	P10
	Z Media	PZ10	PZ10
	Z Media	PZ25	PZ25
	Flow	gpm (L/min)	0 10 20 / 0 25 50 75

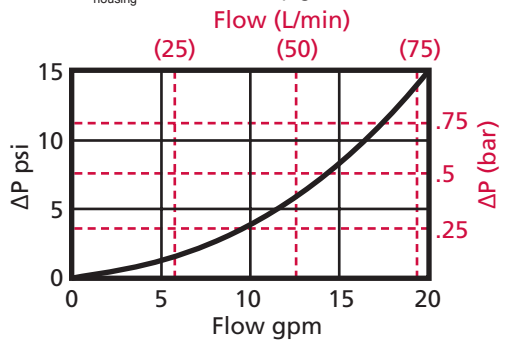
Shown above are the elements most commonly used in this housing.

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

$\Delta P_{housing}$

SAF1 $\Delta P_{housing}$ for fluids with sp gr= 0.86



$\Delta P_{element}$ = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

P10	.17
PZ10	.19
PZ25	.15

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor: Divide viscosity by 150 SUS (32 cSt).

sp gr = specific gravity

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 10 gpm (38 L/min) for SAF16P10SY2 using 200 SUS (44 cSt) fluid.

Solution:

$\Delta P_{housing}$ = 4.0 psi = [.28 bar]

$\Delta P_{element}$ = 10 x .17 x (200 ÷ 150) = 2.3 psi
or
= [38 x (.17 ÷ 54.9) x (44 ÷ 32) = .16 bar]

ΔP_{total} = 4.0 + 2.3 = 6.3 psi
or
= [.28 + .16 = .44 bar]

SAF1 Spin-On Filter

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder SAF1:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6
SAF1					

Example: *Note: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	
SAF1	6	P10		S	Y2	**= SAF16P10SY2**

BOX 1

Filter Series
SAF1

BOX 2

Element Length (in)
6

BOX 3

Element Size and Media
P10 = P size 10 µ E media (cellulose) PZ10 = P size 10 µ Excellement® Z media (synthetic) PZ25 = P size 25 µ Excellement® Z media (synthetic)

BOX 4

Seal Material
Omit = Buna N

BOX 5

Inlet Porting
S = SAE-12

BOX 6

Dirt Alarm® Options	
	Omit = None
Visual	Y2 = Back-mounted tri-color gauge
Electrical	ES = Electric switch

NOTES:
Box 2. Replacement element part numbers are a combination of Boxes 3 and 4. Example: P10