Spin-On Filter PAF1

Model No. of filter in photograph is PAF16PZ10P.

Features and Benefits

- Spin-On with full ported die cast aluminum head for minimal pressure drop
- Offered in pipe and 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
- Same day shipment model available

20 *gpm*
75 L/min
100 psi
7 bar

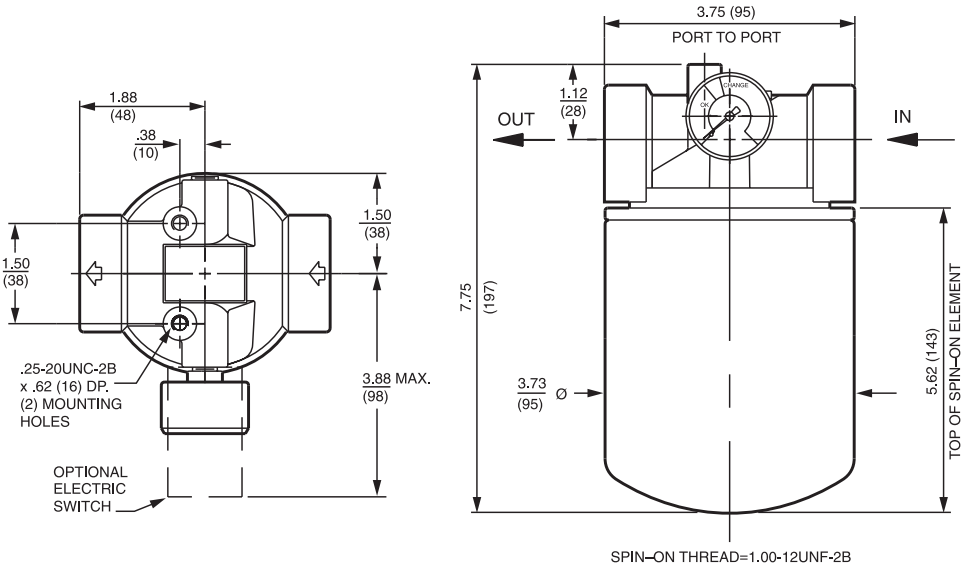
Filter Housing Specifications

Flow Rating:	Up to 50 gpm (190 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	200 psi (10 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 & Cap: Element Case:	Die Cast Aluminum Steel
Weight of MAF1-7M: Weight of MAF1-10M:	4.2 lbs. (1.9 kg) 5.0 lbs. (2.3 kg)
Element Change Clearance:	2.50" (65 mm)

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)

PAF1 Spin-On Filter



Installation instructions included on element.

Metric dimensions in ( ).

Element Performance Information & Dirt Holding Capacity

	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
Element	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
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

Element	DHC (gm)	Element	DHC (gm)
P10	37		
PZ10	16.8	PZ25	23.0

Element Collapse Rating: 100 psid (7 bar)

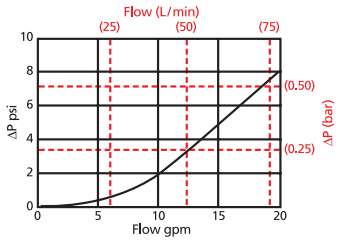
Flow Direction: Outside In

Element Nominal Dimensions: 3.75" (95 mm) O.D. x 5.5" (140 mm) long

Pressure Drop Information
Based on Flow Rate and Viscosity

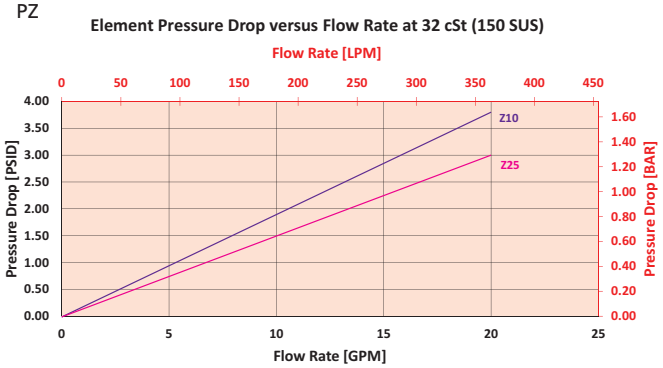
$\Delta P_{housing}$

PAF1 $\Delta P_{housing}$ for fluids with sp gr (specific gravity) = 0.86:



$\Delta P_{element}$

PZ



$$\Delta P_{filter} = \Delta P_{housing} + (\Delta P_{element} * V_f)$$

Exercise:

Determine ΔP_{filter} at 10 gpm (37.9 L/min) for PAF16PZ25PY2 using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine $\Delta P_{housing}$ at 10 gpm. In this case, $\Delta P_{housing}$ is 2 psi (.14 bar) on the graph for the PAF1 housing.

Use the element pressure curve to determine $\Delta P_{element}$ at 10 gpm. In this case, $\Delta P_{element}$ is 1.5 psi (.10 bar) according to the graph for the PZ25 element.

Because the viscosity in this sample is 160 SUS (34 cSt), we determine the **Viscosity Factor (V_f)** by dividing the **Operating Fluid Viscosity** with the **Standard Viscosity** of 150 SUS (32 cSt). To best determine your Operating Fluid Viscosity, please reference the chart in Appendix D.

Finally, the overall filter pressure differential, ΔP_{filter} , is calculated by adding $\Delta P_{housing}$ with the true element pressure differential, ($\Delta P_{element} * V_f$). The $\Delta P_{element}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

$\Delta P_{housing}$ = 2 psi [.14 bar] | $\Delta P_{element}$ = 1.5 psi [.10 bar]

V_f = 160 SUS (34 cSt) / 150 SUS (32 cSt) = 1.1

ΔP_{filter} = 2 psi + (1.5 psi * 1.1) = 3.7 psi

OR

ΔP_{filter} = 14 bar + (.10 bar * 1.1) = .25 bar

Note:
If your element is not graphed, use the following equation:
$\Delta P_{element}$ = Flow Rate x ΔP_f. Plug this variable into the overall pressure drop equation.

Ele.	ΔP
P10	0.17

PAF1 Spin-On Filter

Filter Model Number Selection

Highlighted product eligible for QuickDelivery

How to Build a Valid Model Number for a Schroeder PAF1:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6
PAF1					

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	
PAF1	6	P10		P	Y2	**= PAF16P10PY2**

BOX 1

Filter Series
PAF1

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
P = ¾" NPTF
S = SAE-12

BOX 6

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

NOTE:

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