

Spin-On Filter

PAF1



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

Model No. of filter in photograph is PAF16PZ10P.

IRF
TF1
KF3
KL3
LF1
MLF1
RLD
GRTB
MTA
MTB
ZT
KFT
RT
RTI
LRT
ART
BRT
BFT
QT
KTK
LTK
MRT

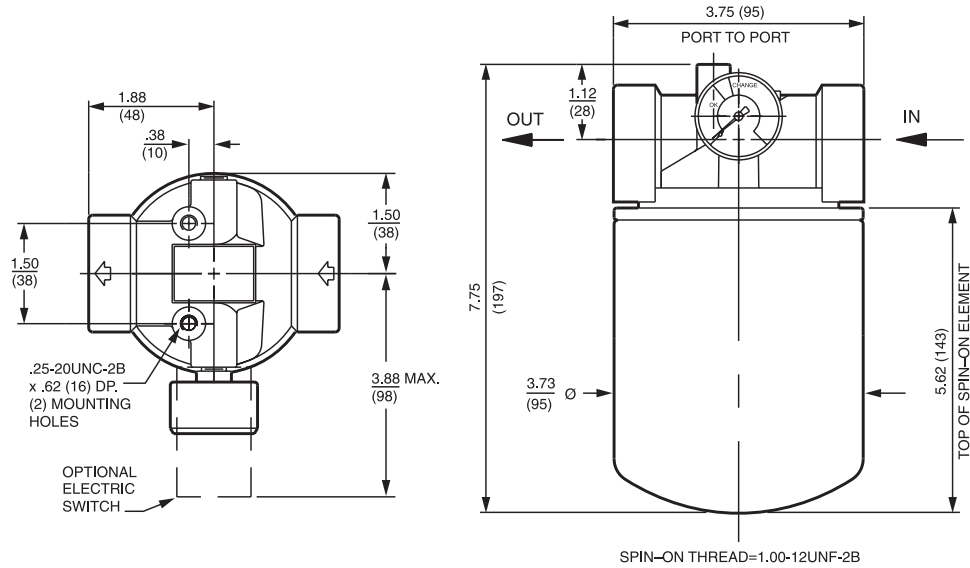
Flow Rating:	Up to 20 gpm (75 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	150 psi (10 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	Contact factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 30 psi (2 bar) Full Flow: 36 psi (2 bar)
Porting Head & Cap:	Die Cast Aluminum
Element Case:	Steel
Weight of PAF1-6P:	1.8 lbs. (0.8 kg)
Element Change Clearance:	2.50" (65 mm)

Filter Housing Specifications

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 Accessories For Tank-Mounted Filters

PAF1
MAF1
MF2



Installation instructions included on element.

Metric dimensions in ().

Element Performance Information & Dirt Holding Capacity

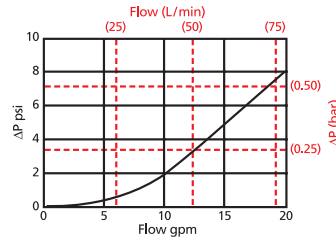
Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
P10	15.5	16.2	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	PZ25	23.0
PZ10	16.8		

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

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

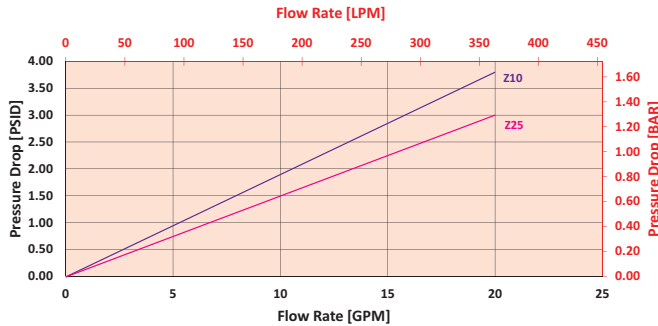
PAF1 $\Delta P_{\text{housing}}$ for fluids with sp gr (specific gravity) = 0.86:



$\Delta P_{\text{element}}$

PZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



Pressure Drop Information Based on Flow Rate and Viscosity

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

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

Use the element pressure curve to determine $\Delta P_{\text{element}}$ at 10 gpm. In this case, $\Delta P_{\text{element}}$ 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 $\Delta P_{\text{housing}}$ with the true element pressure differential, ($\Delta P_{\text{element}} * V_f$). The $\Delta P_{\text{element}}$ from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

Solution:

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

$V_f = 160 \text{ SUS } (34 \text{ cSt}) / 150 \text{ SUS } (32 \text{ cSt}) = 1.1$

$\Delta P_{\text{filter}} = 2 \text{ psi } + (1.5 \text{ psi } * 1.1) = 3.7 \text{ psi}$

OR

$\Delta P_{\text{filter}} = 14 \text{ bar } + (.10 \text{ bar } * 1.1) = .25 \text{ bar}$

Note:

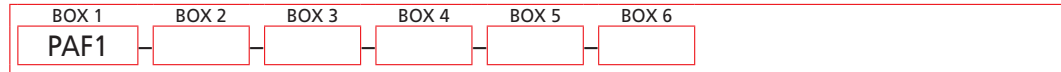
If your element is not graphed, use the following equation:
 $\Delta P_{\text{element}} = \text{Flow Rate} \times \Delta P_f$ Plug this variable into the overall pressure drop equation.

Ele.	ΔP
P10	0.17

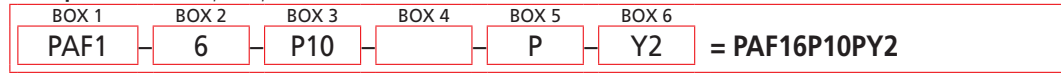
Filter Model Number Selection

Highlighted product eligible for **QuickDelivery**

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



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4
Filter Series	Element Length (in)	Element Size and Media	Seal Material
PAF1	6	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)	Omit = Buna N

BOX 5	BOX 6
Inlet Porting	Dirt Alarm® Options
P = ¾" NPTF S = SAE-12	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