



INDUSTRIAL FLUID POWER COMPONENTS
AND SYSTEMS



PF SERIES

Non-Bypass Pressure Filters



PF4-16FS-10.3-10-D1

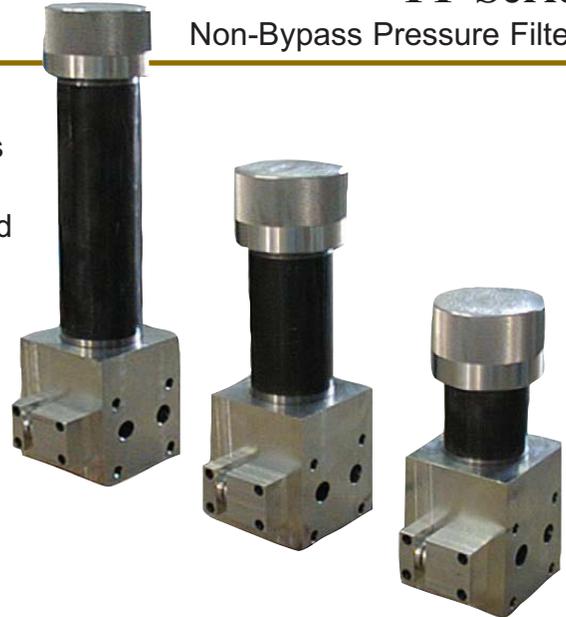
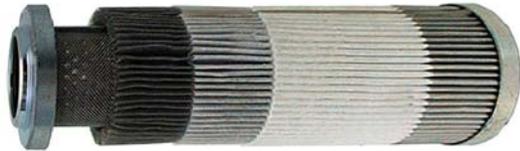


PF Series

Non-Bypass Pressure Filters

Features

- **3000 psi Differential Non-Bypass Elements:** Element is Replaced Periodically or if Machine Speed Slows
- **Replaceable Elements:** Element May be Easily Replaced by Unscrewing End Cap. Available in Three Lengths
- **High Quality Glass Fiber Filter Media:** Supported by Both Support Fleece and a Stainless Steel Wire Mesh



Specifications

Maximum Pressures	Head & Housing	3,000 psi (210 bar) Maximum Working Pressure
	Element	3,000 psid (210 bar) Minimum Collapsing Pressure
Temperature	-15° F to +230° F (Viscosities Permitting)	
Recommended Fluids	Petroleum Based Fluids- ISO VG32-68, Phosphate Ester, Most Vegetable Oils, Water Based Fluids to 40% Water	
Materials	Filter Heads, Filter Body	Aluminum, Steel
	Filter Element	Glass Fiber ($\beta_x \geq 200$) with Stainless Wire Mesh Support

Multi-Pass Performance to ISO 4572 Standards

The beta ratio refers to a 16-bar pressure difference.

test duct ACFTD

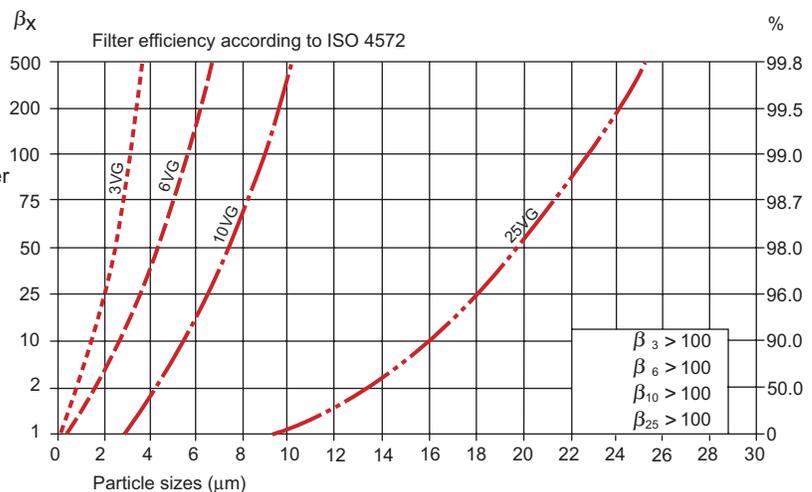
$$\beta_x = \frac{\text{amount of particles size } > \mu\text{m before filter}}{\text{amount of particles size } > \mu\text{m after filter}}$$

conversion of filtration quotient β_x into filtration efficiency in %

$$\frac{\text{filtration quotient} - 1}{\text{filtration quotient}} \times 100 = \%$$

e.g. $\beta_{10} = 75 \rightarrow \frac{(75-1)}{75} \times 100 = 98.7\%$

Glass Fiber



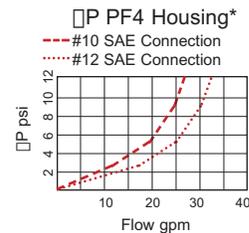
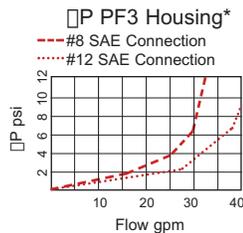
Application	ISO 4406	NAS 1638	Hyvair
Servo valve systems, high pressure circuits, very low flow applications- where silting can occur	13/ 9	3-4	3 μ
Proportional valves	16/13	7-8	10 μ
General heavy industrial, low pressure circuits	19/15	9-11	25 μ

Element Flow Ratings

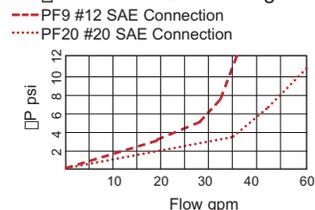
Bowl Length	Filter Rating (microns) □ ≥ 200	Model Number (Element Only)	Element Flow*	
			(□P= 10 psi)	(□P= 20 psi)
1	3□ Absolute	3.4-3	8	17
	10□ Absolute	3.4-10	18	37
	25□ Absolute	3.4-25	32	60
2	3□ Absolute	6.1-3	15	38
	10□ Absolute	6.1-10	30	>75
	25□ Absolute	6.1-25	61	>75
3	3□ Absolute	10.3-3	18	>75
	10□ Absolute	10.3-10	44	>75
	25□ Absolute	10.3-25	74	>75

*Element GPM with viscosity of 150 SUS, Specific Gravity of .88 (ISO 32 Oil at 100° F).
Total pressure drop= □P Housing + □P Element

Filter Housing Pressure Drops



□P PF9 & PF20 Housing*



PF3 In-Line Pressure Filter
Sizes:
NPT- 8FP, 12FP, 16FP
SAE- 8FS, 10FS, 12FS
No Indicator Available



PF4 Modular Pressure Filter
Attaches to Hyvair D03, D05, or D08 Manifolds
Size:
10FS female SAE only
Differential Indicator, Relief Valve, Optional



PF9 "T" Style Pressure Filter
Sizes:
NPT- 8FP, 12FP, 16FP
SAE- 8FS, 10FS, 12FS
Differential Indicator, Optional



PF20 Double "T" Style Pressure Filter
Sizes:
NPT- 12FP, 16FP, 20FP
SAE- 12FS, 16FS, 20FS
Differential Indicator Optional
(Uses 2 elements)

Ordering Information

FILTER ASSEMBLY

PF4 - 10FS - 10.3 - 3 - D1

PF3 In-Line
PF4 Modular
PF9 "T" Style
PF20 Double "T"

Code	Size
8FS	#8 Female SAE
10FS	#10 Female SAE
12FS	#12 Female SAE
16FS	#16 Female SAE
20FS	#20 Female SAE
8FP	1/2" Female NPT
12FP	3/4" Female NPT
16FP	1" Female NPT
20FP	1-1/4" Female NPT

Code	Element Length / Max. Flow Rating
3.4	3.44" (15 gpm)
6.1	6.05" (23 gpm)
10.3	10.3" (40 gpm)

Code	Filtration
3	3 Micron
10	10 Micron
25	25 Micron

Code	Optional Codes- List Alphabetically
D1	50 psi Differential Pressure Indicator
D2	150 psi Differential Pressure Indicator
DE1	50 psi Diff. Pressure & Electrical Indicator
DE2	150 psi Diff. Pressure & Electrical Indicator
R	Relief Valve 300-3000 psi, 50 gpm max.

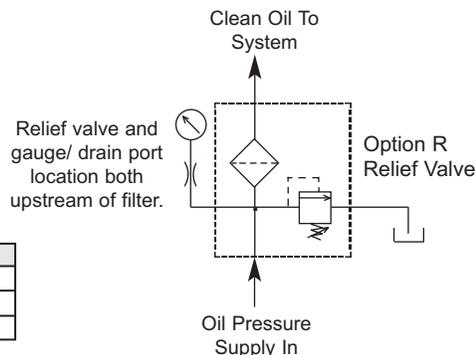
ELEMENT ONLY

NB1-S1-14-1.7 - 10.3 - 3

Non-Bypass Series 1, Steel End Caps Buna N seals, Nominal Size 14 (.875" ID), 1.7" Outer Diameter

Code	Element Length/ Flow Rating
3.4	3.44" (15 gpm)
6.1	6.05" (23 gpm)
10.3	10.3" (40 gpm)

Code	Filtration
3	3 Micron
10	10 Micron
25	25 Micron



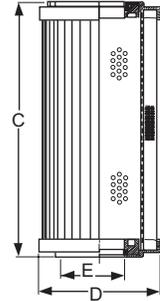
Dimensional Data



NB1 Pressure Filter Elements
(FOR PF3, PF4, PF9 AND PF20)

Element NB1S1141.7-	C	D	E	3 \square Dirt Capacity	10 \square Dirt Capacity	25 \square Dirt Capacity
3.4-*	3.44	1.7	.875	6.4 g	7.0 g	11.5 g
6.1-*	6.05	1.7	.875	10.6 g	11.6 g	19.0 g
10.3-*	10.3	1.7	.875	15.2 g	16.7 g	27.3 g

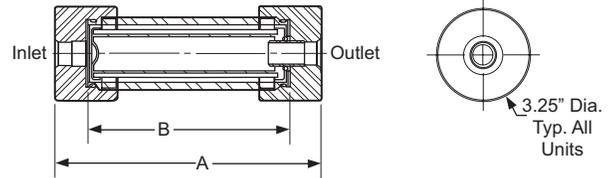
Units: Inches



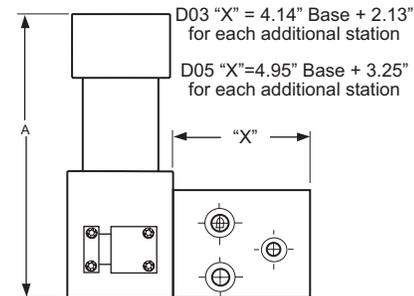
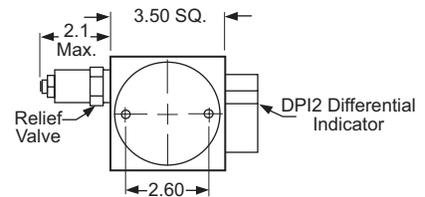
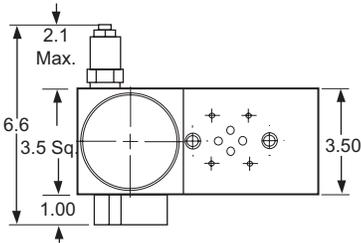
PF3 Pressure Filter

Element / Length	A	B (Tube Length)	C
3.4	7.18	4.28	3.44
6.1	9.80	6.90	6.05
10.3	14.07	11.17	10.3

Units: Inches

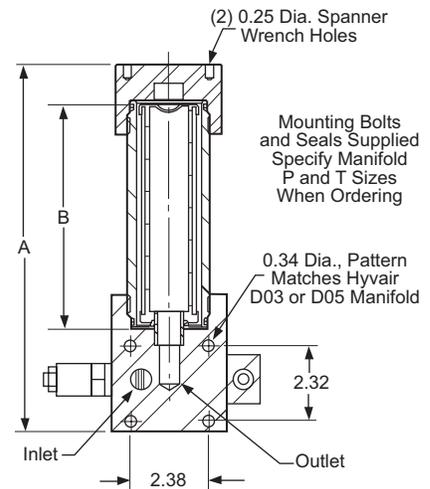


PF4 Pressure Filter

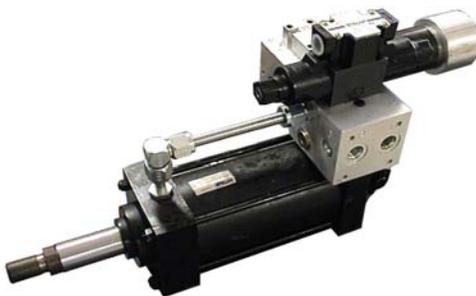


Element / Length	A	B (Tube Length)
3.4	8.26	4.28
6.1	10.88	6.90
10.3	15.15	11.17

Units: Inches

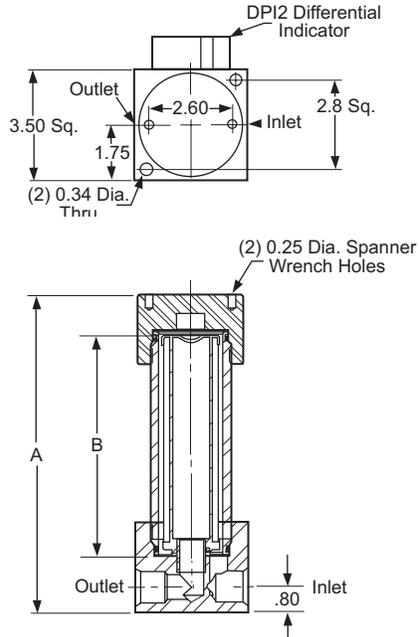


Manifolds (with slight modification) and PF4 pressure filters mounted directly to cylinder.



Dimensional Data

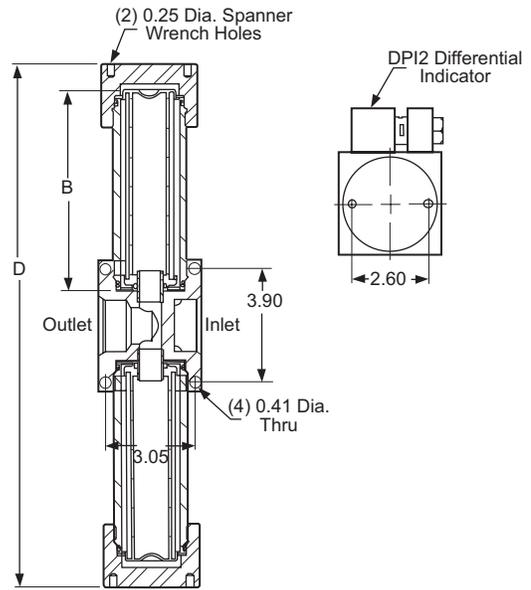
PF9 Pressure Filter



Element / (Act. Length)	A	B (Tube Length)
3.4 (3.44")	7.18	4.28
6.1 (6.05")	9.80	6.90
10.3 (10.3")	14.07	11.17

Units: Inches

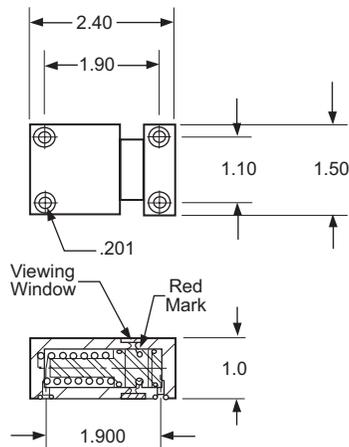
PF20 Pressure Filter



Element / (Act. Length)	D	B (Tube Length)
3.4 (3.44")	12.66	4.28
6.1 (6.05")	17.90	6.90
10.3 (10.3")	26.44	11.17

Units: Inches

DPI2 Differential Pressure Indicator



DE1 and DE2 Differential Electric Indicators:
Available soon.

Differential Indicators:	System Pressure 1000 psi	
	start	dirty
Option Code: D1 (50 psi) Full Model: DPI2-3K-11-A1	□P= 33	49
Option Code: D2 (150 psi) Full Model: DPI2-3K-31-A1	□P= 80	144