PF4

High Pressure Base Mounted Filter Assemblies

Donaldson Hy-Pro PF4 pressure filters are designed for protecting sensitive components in hydraulic circuits. Install the series upstream of specific components or directly after the pressure pump to minimize risk of failure and costly system downtime.

Ideal for components that are sensitive to particulate contamination, such as the servo valve, and require clean pressurized fluid for reliable operation.

Max Flow Rate: 150 gpm (568 lpm)

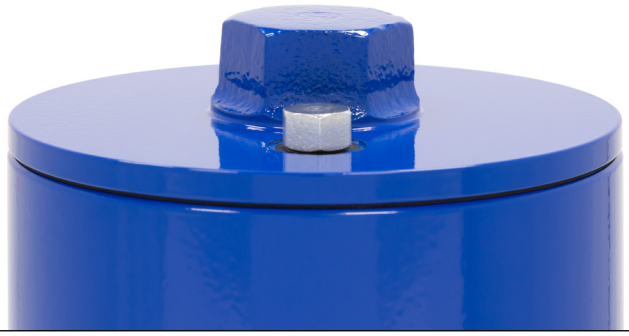
Max Operating Pressure: 6,000 psi (414 bar)

Donaldson HY-PRO™

hyprofiltration.com/

Filtration starts with the filter.

G8 Dualglass elements are DFE rated to assure performance even when exposed to the toughest hydraulic systems and provide unmatched particulate capture and retention to protect servo valves and ensure you're operating at maximum efficiency.

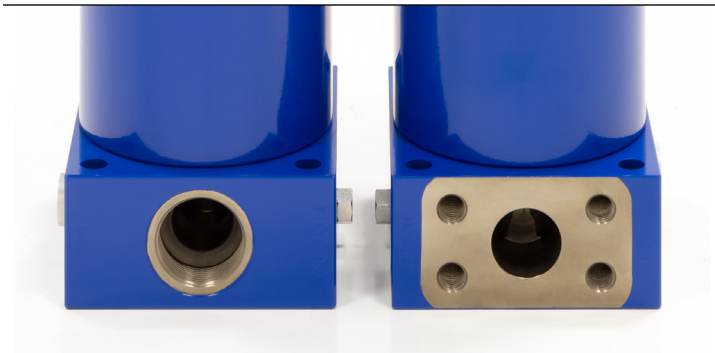


Minimize the mess.

The top loading housing on PF4 filter assemblies provide easy and clean access when servicing or changing the element. Accessing the element is as simple as removing the housing cover, meaning you have no heavy bowl to lift and can get back in operation quicker than ever.

HF4 Compatible Design.

The PF4 series is engineered to meet mill and plant target cleanliness codes and required ISO4406:1999 cleanliness standards to meet hydraulic component manufacturers warranties. Available with HF4 compatible port to port dimension, mounting pattern, and element design to meet the automotive manufacturing standard.

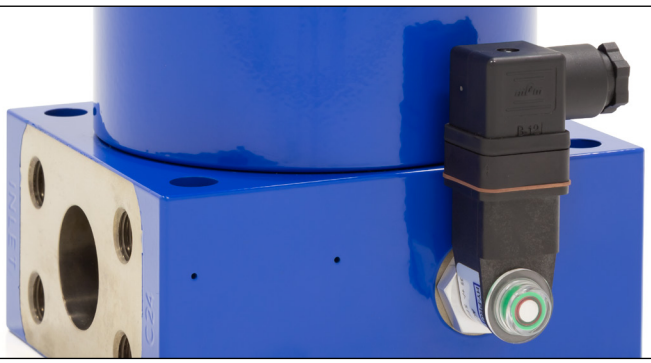


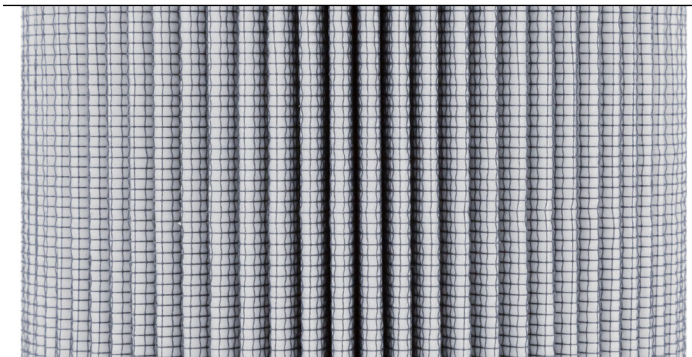
Works with your system.

Available with several port and length configurations, you'll be amazed at how easily the PF4 integrates directly into your system.

Tailored to your needs.

PF4 assemblies come with an array of standard indicator options to allow you to customize your assemblies for your exact applications. From thermal lockouts to surge protection, your system will be prepared for whatever comes its way.





Extend the life of your element.

Donaldson Hy-Pro's advanced filter media delivers lower operating ISO Codes to eliminate internally generated contamination. With the widest range of media options and the large surface area of PF4 elements, your filter will have an incredibly long service life to protect your sensitive components better than ever.

PF4 Sizing Guidelines

Filter Sizing[1]

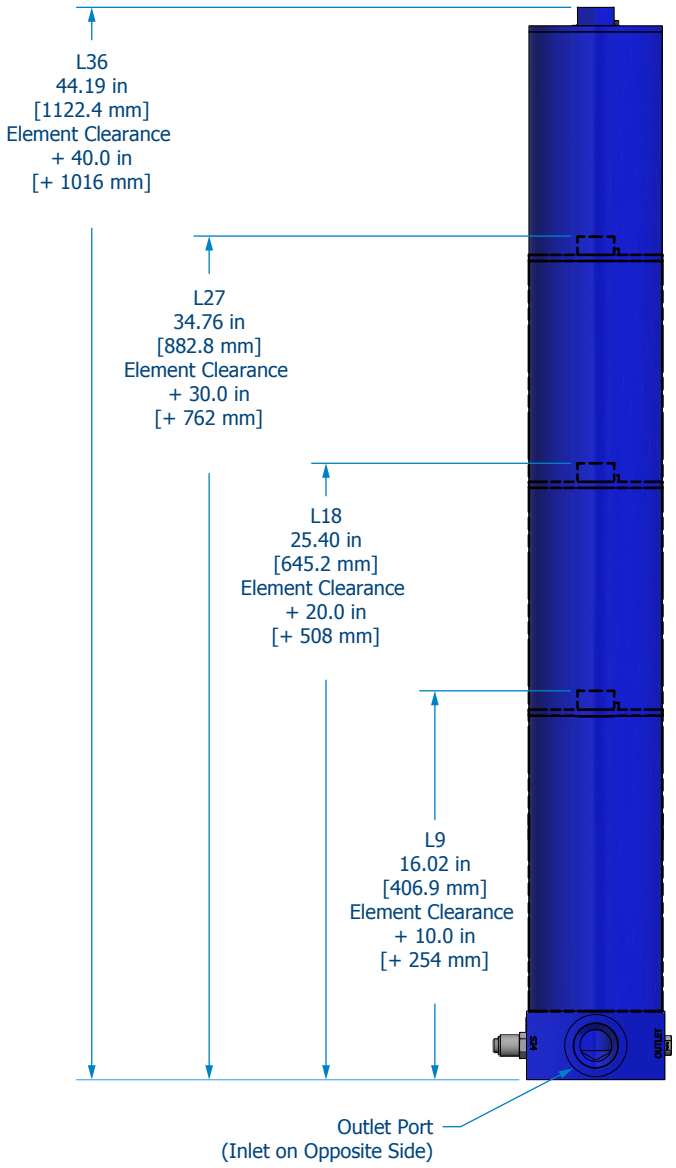
Filter assembly clean element ΔP after actual viscosity correction should not exceed 10% of filter assembly bypass setting. For applications with extreme cold start condition contact Donaldson Hy-Pro for sizing recommendations.

ΔP Factors[1]

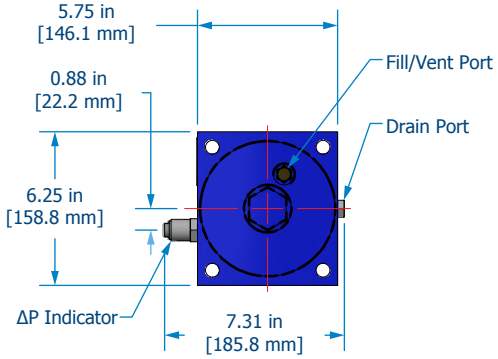
Collapse	Length	Units	Media						
			1M	**3M**	**6M**	**12M**	**16M**	**25M**	****W**
PF4K**, PF4K1**, PF4KC**	L9	psid/gpm	0.2374	0.2003	0.1553	0.1392	0.1362	0.1312	0.0236
		bard/lpm	0.0043	0.0036	0.0028	0.0025	0.0025	0.0024	0.0004
	L18	psid/gpm	0.1167	0.0985	0.0764	0.0685	0.0670	0.0645	0.0116
		bard/lpm	0.0021	0.0018	0.0014	0.0012	0.0012	0.0012	0.0002
	L27	psid/gpm	0.0775	0.0654	0.0507	0.0454	0.0444	0.0428	0.0077
		bard/lpm	0.0014	0.0012	0.0009	0.0008	0.0008	0.0008	0.0001
PF4K3** (non-bypass housing)	L9	psid/gpm	0.3376	0.2849	0.2208	0.1980	0.1937	0.1866	0.0336
		bard/lpm	0.0061	0.0052	0.0040	0.0036	0.0035	0.0034	0.0006
	L18	psid/gpm	0.1651	0.1393	0.1080	0.0968	0.0947	0.0912	0.0164
		bard/lpm	0.0030	0.0025	0.0020	0.0018	0.0017	0.0017	0.0003
	L27	psid/gpm	0.1094	0.0924	0.0716	0.0642	0.0628	0.0605	0.0109
		bard/lpm	0.0020	0.0017	0.0013	0.0012	0.0011	0.0011	0.0002

[1]Max flow rates and ΔP factors assume β = 150 SUS, 32 cSt. See filter assembly sizing guideline for viscosity conversion formula for viscosity change.

PF4 Installation Drawings

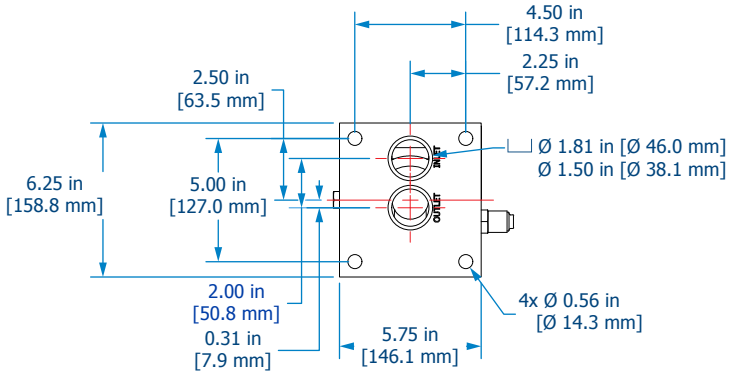


Top View

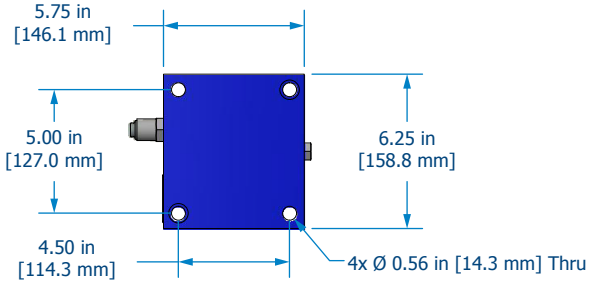


Manifold Bottom View

(90 Durometer O-rings Supplied)



Bottom View



PF4 Specifications

Dimensions	See Installation Drawings for model specific dimensions.			
Weight	**PF4 L9** 56 lbs (25.4 kg)	**PF4 L18** 82 lbs (37.5 kg)	**PF4 L27** 109 lbs (49.5 kg)	**PF4 L36** 135 lbs (61.3 kg)
Operating Temperature	-20°F to 250°F (-29°C to 121°C)			
Operating Pressure	6,000 psi (414 bar) max code 62 port only 5,500 psi (379 bar) max all other ports			
Flow Fatigue Rating	3,500 psi (238 bar)			
Burst Pressure	16,400 psi (1130 bar)			
ΔP Indicator Trigger	70 psid (4.8 bard) for both bypass and non-bypass Refer to Appendix for indicator wiring diagrams			
Element Collapse Rating	**HPK** 290 psid (20.0 bard)	**HPK3** 3000 psid (206.8 bard)	**HPK5** 5000 psid (344.7 bard)	**HPKC** 150 psid (10.3 bard)
Integral Bypass Setting	90 psid (6.2 bard)			

Materials of Construction	**Head/Lid** Ductile iron (powder coated)	**Bowl** Seamless steel tubing (powder coated)	**Assembly Bypass Valve** Delrin
Media Description	**M** G8 Dualglass, our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta x_{[C]} \geq 4000$	**A** G8 Dualglass high performance media combined with water removal scrim. $\beta x_{[C]} \geq 4000$	**W** Stainless steel wire mesh media $\beta x_{[C]} \geq 2$

Replacement Elements

To determine replacement elements, use corresponding codes from your assembly part number:

Filter Element Part Number	**Example**
HP[Collapse Rating Code]L[Length Code] – [Media Selection Code] [Seal Code]	HPKL18–16MV

Fluid Compatibility	Petroleum and mineral based fluids (standard). For polyol ester, phosphate ester, and other specified synthetic fluids use fluorocarbon seal option or contact factory.

PF4 Part Number Builder

PF4 [ ] [ ] [ ] [ ] [ ] - [ ] - [ ] [ ]

Connection | Collapse | Length | Bypass | Indicator | Options | Media | Seal

Connection

Port Option		Max Flow Rate	Max Pressure Rate
C24	1.5″ Code 62 flange	150 gpm (568 lpm)[1]	6000 psi (414 bar)
F24	1.5″ Code 61 flange	150 gpm (568 lpm)[1]	5500 psi (379 bar)
G24	1.5″ GThread (BSPP)	150 gpm (568 lpm)[1]	5500 psi (379 bar)
M24	Manifold mount (see installation detail)	150 gpm (568 lpm)[1]	5500 psi (379 bar)
S24	1.5″ SAE	150 gpm (568 lpm)[1]	5500 psi (379 bar)

Collapse Rating

K	290 psid (20.0 bard), HF4 element configuration
K3	3000 psid (206.8 bard), HF4 element configuration
K5	5000 psid (344.7 bard), HF4 element configuration
KC	150 psid (10.3 bard), Coreless with o-ring seals

Element Length

9	9″ (23 cm) nominal length filter element and housing
18	18″ (46 cm) nominal length filter element and housing
27	27″ (69 cm) nominal length filter element and housing
36	36″ (91 cm) nominal length filter element and housing

Bypass

3	50 psid (3.4 bard) bypass
6	90 psid (6.2 bard) bypass
X	No bypass

ΔP Indicator

Indicator Options		Thermal Lockout	Surge Control	Reset
D	Visual / Electrical (DIN 43650)	No	No	Auto
S	Visual / Electrical (DIN 43650)	Yes	Yes	Manual
V	Visual	No	No	Auto
X	No indicator (port plugged)	–	–	–
Y	Visual only	Yes	Yes	Manual

Special Options

C	Reverse flow check valve
N	Nickel plated internal components for high water applications (not available with Special Option C)

Media Selection

G8 Dualglass

1M	$\beta 3_{[C]} \geq 4000$
3M	$\beta 4_{[C]} \geq 4000$
6M	$\beta 6_{[C]} \geq 4000$
12M	$\beta 11_{[C]} \geq 4000$
16M	$\beta 16_{[C]} \geq 4000$
25M	$\beta 22_{[C]} \geq 4000$

G8 Dualglass + water removal

3A	$\beta 4_{[C]} \geq 4000$
6A	$\beta 6_{[C]} \geq 4000$
12A	$\beta 11_{[C]} \geq 4000$
25A	$\beta 22_{[C]} \geq 4000$

Dynafuzz stainless fiber

3SF	$\beta 4_{[C]} \geq 4000$
6SF	$\beta 6_{[C]} \geq 4000$
10SF	$\beta 11_{[C]} \geq 4000$
25SF	$\beta 22_{[C]} \geq 4000$

Stainless wire mesh

10W	10µ nominal
25W	25µ nominal
40W	40µ nominal
74W	74µ nominal
149W	149µ nominal

Seals

B	Nitrile (Buna)
V	Fluorocarbon
E-WS	EPR seals + stainless steel support mesh

[1]Maximum recommended flow rate based on velocity through port and internal flow path. Consult sizing guidelines or consult factory for sizing based on flow rate, viscosity, temperature, filter media selection.

For all up to date option details and compatibilites, please reference our Contamination Solutions Price List or contact customer service.

Want to find out more? Get in touch.
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Donaldson HY-PRO™

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