

# PFHB

## High Pressure Full Flow Bi-Directional Filter Assemblies

Hy-Pro's PFHB high pressure filter assemblies are designed for applications where flow direction changes and fluid must be filtered with full flow in both directions. Protect both components and clean fluid that typically does not return to the reservoir.

Ideal for steel mills, board plants, scrap yards, and concrete mixers.

**Max Operating Pressure: 7250 psi (500 bar)**



[hyprofiltration.com/](http://hyprofiltration.com/)



## Elements that go beyond industry standard.

DFE rated advanced media technologies provide the highest level of particulate capture and retention capabilities to combat the dynamic flow changes in all hydraulic applications. With media options down to  $\beta_{3\mu} \geq 4000$ , + water absorption, you get the perfect element for your application, every time.



## Two directions, one result.

With unique flow paths and internal check valves, PFHB assemblies allow hydraulic fluids to travel in both directions while maintaining the highest of filter efficiencies. Whether installed at the end of a remotely located cylinder or small cylinders where used fluid is not able to return to the tank for standard filtration, the PFHB captures contaminants in both flow directions where others can't.

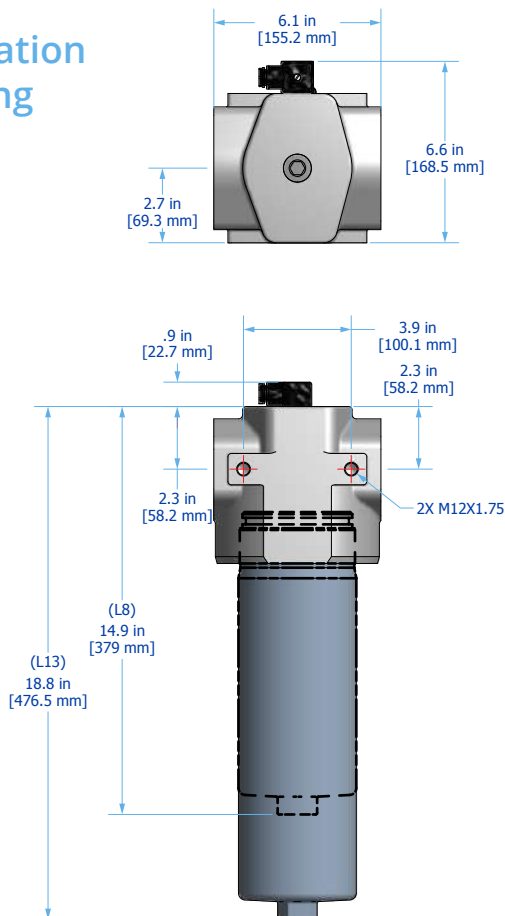


## Always ready.

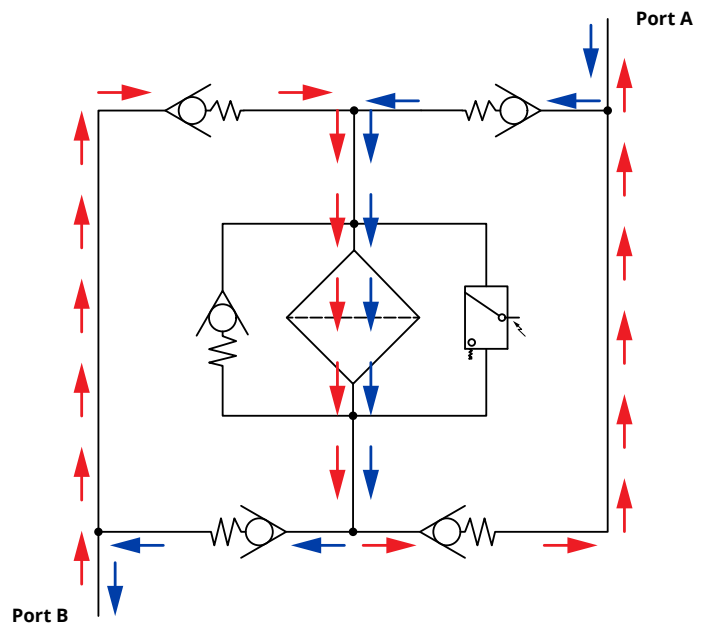
Perfect for use in hydrostatic loop circuits and any system where flow can change direction, the PFHB is ready for capturing particles in both directions with absolute efficiency - automatically.



## PFHB Installation Drawing



## Bi-Directional Schematic



# PFHB Specifications

Dimensions<sup>1</sup> See Installation Drawing on page 241 for model specific dimensions.

Operating Temperature	<b>Fluid Temperature</b> 30°F to 225°F (0°C to 105°C)	<b>Ambient Temperature</b> -4°F to 140°F (-20C to 60C)
-----------------------	---	--

Operating Pressure	7250 psi (500 bar)
--------------------	--------------------

ΔP Indicator Trigger	73 psid (5 bard)
----------------------	------------------

Element Collapse Rating	<b>HP419NL</b> 450 psid (31.0 bard) max	<b>HP419HL</b> 3000 psid (206.8 bard) max	<b>HP419CL</b> 250 psid (17.2 bard) max
-------------------------	--	--	--

Materials of Construction	<b>Head</b> Cast steel	<b>Bowl<sup>1</sup></b> Extruded steel	<b>Interior Coating</b> Phosphate	<b>Exterior Coating</b> Industrial powder coating
---------------------------	---------------------------	---	--------------------------------------	--

Media Description	<b>M</b> G8 Dualglass, our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x_{10}} \geq 4000$	<b>A</b> G8 Dualglass high performance media combined with water removal scrim. $\beta_{x_{10}} \geq 4000$	<b>W</b> Stainless steel wire mesh media $\beta_{x_{10}} \geq 2$ ( $\beta_x \geq 2$ )
-------------------	---	---	--

Replacement Elements	To determine replacement elements, use the selected codes from the following page below: <b>Filter Element Part Number</b> HP419[Collapse Code] L13 – [Media Selection Code][Seal Code]	<b>Example</b> HP419NL13-25MB
----------------------	---	----------------------------------

Fluid Compatibility	Biodegradable and mineral based fluids. For high water based or specified synthetics, consult factory.
---------------------	--

Filter Sizing <sup>2</sup>	Filter assembly clean element ΔP after actual viscosity correction should not exceed 10% of filter assembly bypass setting. See page 22 for filter assembly sizing guidelines & examples. For applications with extreme cold start condition contact Hy-Pro for sizing recommendations.
----------------------------	---

ΔP Factors <sup>2</sup>	Length	Units	Media						
			1M	3M	6M	10M	16M	25M	**W
L13		psid/gpm	0.2364	0.1995	0.1546	0.1387	0.1357	0.1307	0.0235
		bard/lpm	0.0043	0.0036	0.0028	0.0025	0.0025	0.0024	0.0004

<sup>1</sup>Bowl comes standard with drain plug.

<sup>2</sup>Max flow rates and ΔP factors assume  $\mu = 150$  SUS, 32 cSt. See filter assembly sizing guideline for viscosity conversion formula on page 22 for viscosity change.

# PFHB Part Number Builder

PFHB      -

Connection Collapse Length Bypass Indicator Media Seal

Connection	<b>Port Option</b> <b>C24</b> 1½" Code 62 flange	<b>Max Flow Rate</b> 95 gpm (360 lpm) <sup>1</sup>	
Collapse	<b>C</b> 250 psid (17.2 bard) – Coreless element with integral bypass (includes post assembly for element support) <sup>1</sup> <b>H</b> 3000 psid (206.8 bard) – High collapse element with no housing bypass <b>N</b> 450 psid (31.2 bard) – Core-in element with housing bypass		
Element Length	<b>13</b> 13" (33 cm) nominal length filter element and housing		
Bypass	<b>7</b> 102 psid (7 bard) bypass <b>X</b> No bypass		
ΔP Indicator	<b>DX</b> Electrical switch only (DIN connection) <b>L</b> Visual with electric switch (DIN connection) + LED indicator <b>V</b> Visual/Mechanical <b>X</b> No indicator (port plugged)		
Media Selection	<b>G8 Dualglass</b> <b>1M</b> $\beta_{3[\text{C}]}$ ≥ 4000 <b>3M</b> $\beta_{5[\text{C}]}$ ≥ 4000 <b>6M</b> $\beta_{7[\text{C}]}$ ≥ 4000 <b>10M</b> $\beta_{12[\text{C}]}$ ≥ 4000 <b>16M</b> $\beta_{17[\text{C}]}$ ≥ 4000 <b>25M</b> $\beta_{22[\text{C}]}$ ≥ 4000	<b>G8 Dualglass + water removal</b> <b>3A</b> $\beta_{5[\text{C}]}$ ≥ 4000 <b>6A</b> $\beta_{7[\text{C}]}$ ≥ 4000 <b>10A</b> $\beta_{12[\text{C}]}$ ≥ 4000 <b>25A</b> $\beta_{22[\text{C}]}$ ≥ 4000	<b>Stainless wire mesh</b> <b>25W</b> 25μ nominal <b>40W</b> 40μ nominal <b>74W</b> 74μ nominal <b>149W</b> 149μ nominal
Seals	<b>B</b> Nitrile (Buna) <b>V</b> Fluorocarbon <b>E-WS</b> EPR seals + stainless steel support mesh		

<sup>1</sup>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 compatibilities, please reference our [Contamination Solutions Price List](#) or contact customer service.

Want to find out more? Get in touch.

hyprofiltration.com  
info@hyprofiltration.com  
+1 317 849 3535

© 2023 Hy-Pro Corporation. All rights reserved.



MKTLITFAS-PFHB-051223-EM