

# PFH62

## High Pressure In-Line Filter Assemblies

Hy-Pro's PFH62 pressure filters are designed to protect 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 use as a power unit pump discharge filter and to protect components that are sensitive to particulate contamination and require clean pressurized fluid for reliable operation, such as servo valves.

**Max Operating Pressure: 6,600 psi (455 bar)**

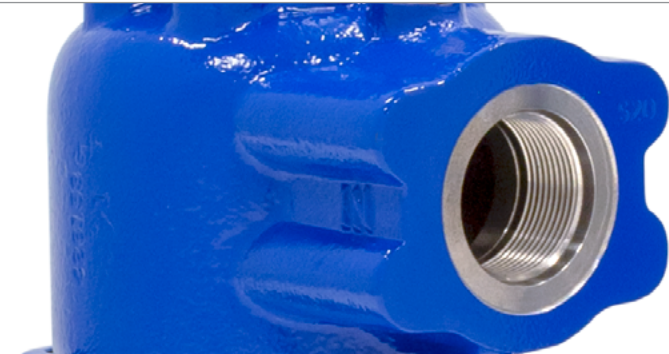


[hyprofiltration.com/](http://hyprofiltration.com/)



## Dynamic Filter Efficiency

Hydraulic applications see dynamic flow changes on a regular basis. Dynamic Filter Efficiency testing takes the ISO16889 Multi-Pass testing even further with variable flow shifts to ensure your filter elements stand up to real world conditions and maintain the highest capture and retention rates in the industry.



## Unique applications.

With available nickel plating, the PFH62 is an ideal choice for rough duty, high water contamination applications. Media options include wire mesh, water removal, and Dualglass to address even the most unique contamination. A reverse flow check valve option enables usage in reversing hydrostatic drive systems.

## Industrial duty.

Standard mounting holes for an optional mounting bracket, a variety of indicator options, head-up or inverted mounting options, and side-in / end-out "L-Head" port orientation or a sub-plate manifold mount option make the PFH62 the ideal choice for heavy duty hydraulic filtration.

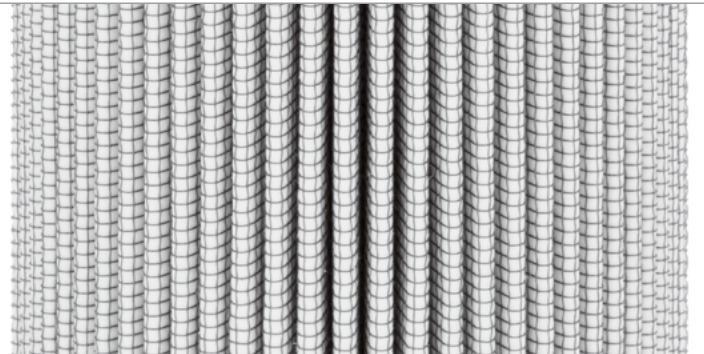


## Minimize the mess.

The top loading housing on PFH62 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.

## Extend the life of your element.

Unique internal flow paths provide low resistance to flow, resulting in a low housing pressure drop. Hy-Pro's advanced filter media delivers lower operating ISO Codes to eliminate internally generated contamination meaning your filter will have an incredibly long service life to protect your sensitive components better than ever.

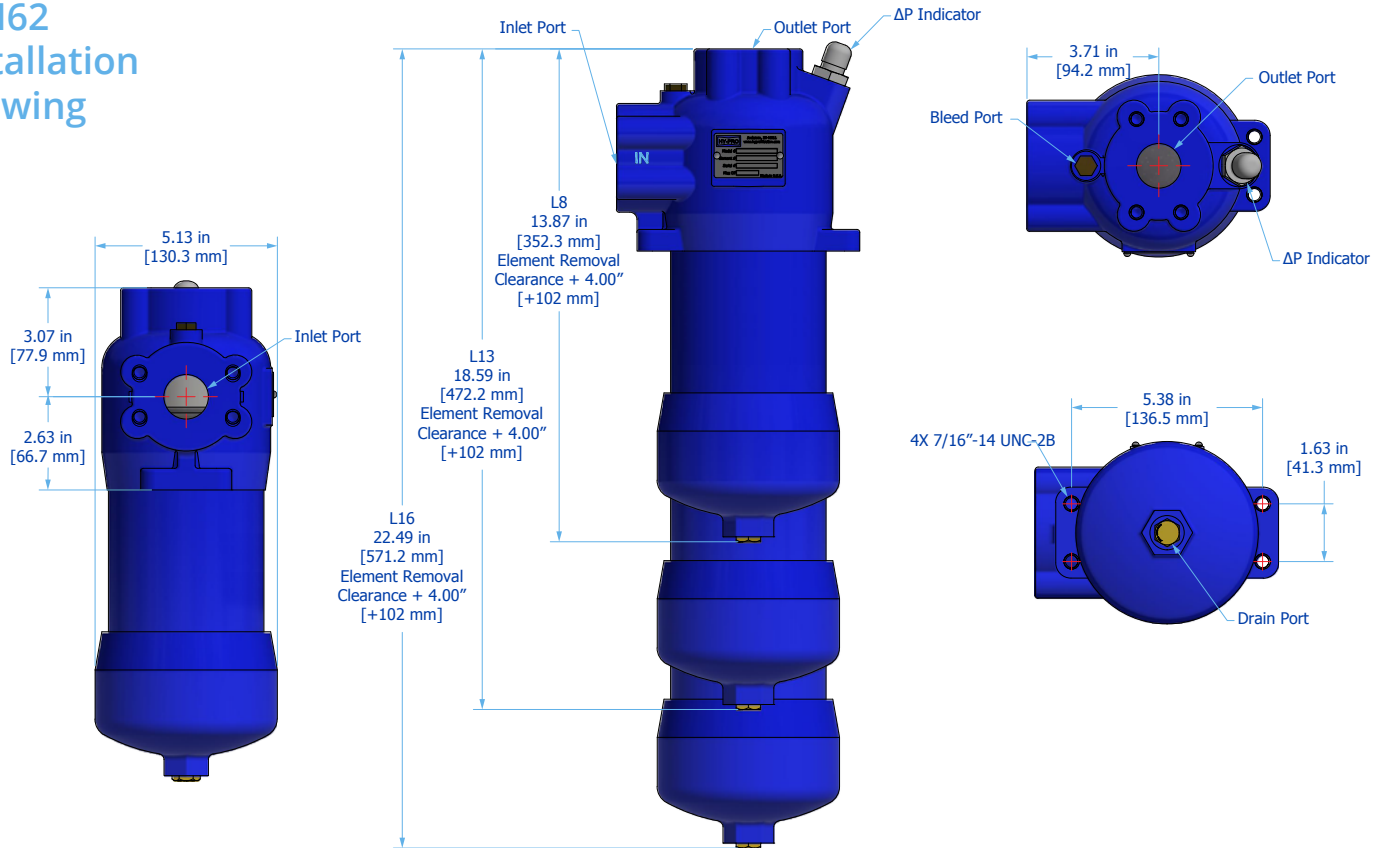


## The ideal choice for hydraulics.

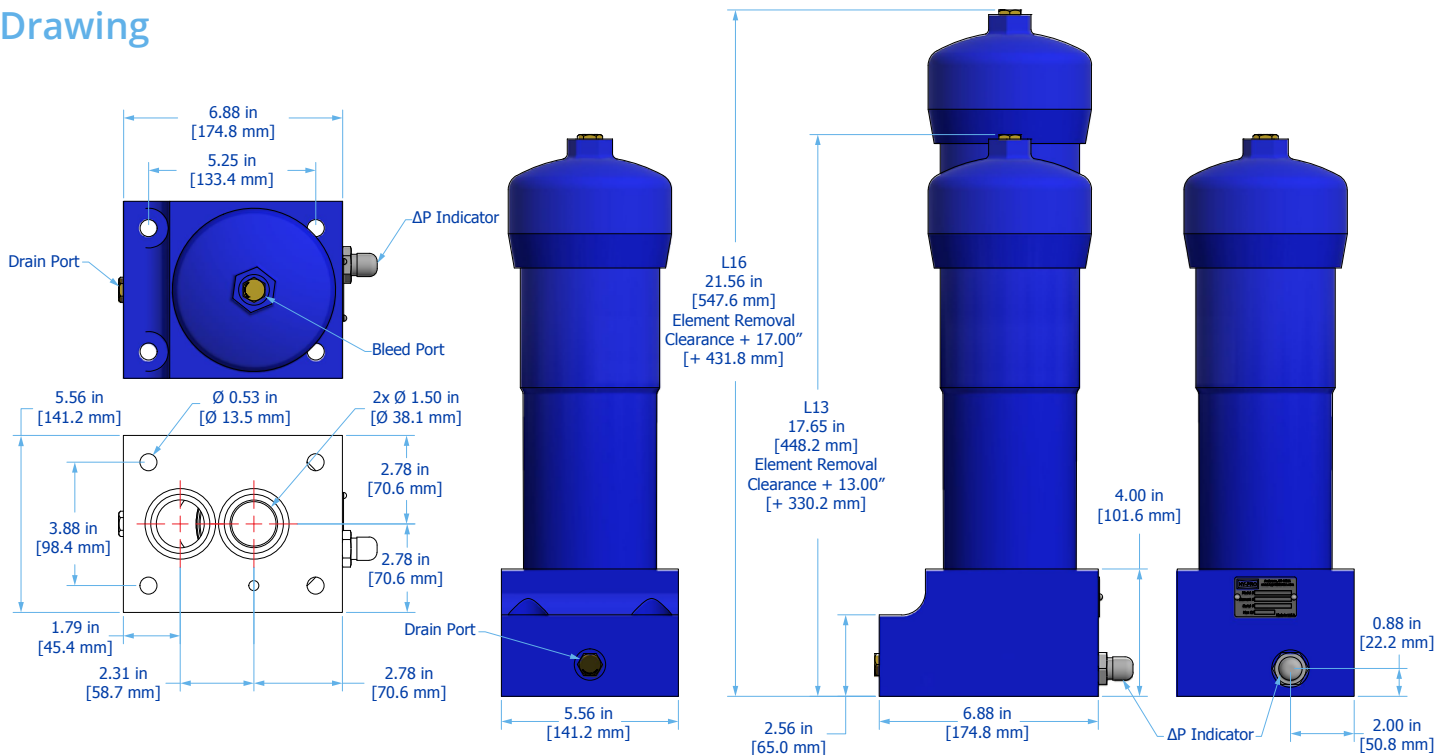
Use the PFH62 as the main high pressure filter(s) in a hydraulic system or upstream of sensitive components as a pilot filter to protect your valves and actuators. The PFH series is engineered to provide lower operating ISO Codes than what is required for compliance with hydraulic component manufacturers' warranties.

# PFH62 Installation Drawings

## PFH62 Installation Drawing



## PFH62M Installation Drawing



# PFH62 Sizing Guidelines

## Filter Assembly Sizing Guidelines

Effective filter sizing requires consideration of flow rate, viscosity (operating and cold start), fluid type and degree of filtration. When properly sized, bypass during cold start can be avoided/minimized and optimum element efficiency and life achieved. The filter assembly differential pressure values provided for sizing differ for each media code, and assume 32 cSt (150 SUS) viscosity and 0.86 fluid specific gravity. Use the following steps to calculate clean element assembly pressure drop.

## Sizing recommendations to optimize performance and permit future flexibility

- To avoid or minimize bypass during cold start the actual assembly clean  $\Delta P$  calculation should be repeated for start-up conditions if cold starts are frequent.
- Actual assembly clean  $\Delta P$  should not exceed 10% of bypass  $\Delta P$  gauge/indicator set point at normal operating viscosity.
- If suitable assembly size is approaching the upper limit of the recommended flow rate at the desired degree of filtration consider increasing the assembly to the next larger size if a finer degree of filtration might be preferred in the future. This practice allows the future flexibility to enhance fluid cleanliness without compromising clean  $\Delta P$  or filter element life.
- Once a suitable filter assembly size is determined consider increasing the assembly to the next larger size to optimize filter element life and avoid bypass during cold start.
- When using water glycol or other specified synthetics, we recommend increasing the filter assembly by 1~2 sizes.

Step 1: Calculate  $\Delta P$  coefficient for actual viscosity

### Using Saybolt Universal Seconds (SUS)

$$\Delta P \text{ Coefficient} = \frac{\text{Actual Operating Viscosity}^1 \text{ (SUS)}}{150} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

### Using Centistokes (cSt)

$$\Delta P \text{ Coefficient} = \frac{\text{Actual Operating Viscosity}^1 \text{ (cSt)}}{32} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Step 2: Calculate actual clean filter assembly  $\Delta P$  at both operating and cold start viscosity

$$\text{Actual Assembly Clean } \Delta P = \text{Flow Rate} \times \Delta P \text{ Coefficient (from Step 1)} \times \text{Assembly } \Delta P \text{ Factor (from sizing table)}$$

# PFH62 Sizing Guide

## Filter Sizing<sup>1</sup>

Filter assembly clean element  $\Delta P$  after actual viscosity correction should not exceed 10% of filter assembly bypass setting. See page 4 for filter assembly sizing guidelines & examples. For applications with extreme cold start condition contact Hy-Pro for sizing recommendations.

## $\Delta P$ Factors<sup>1</sup>

Element Type	Length	Units	Media						
			1M	3M	6M	10M	16M	25M	**W
60	L8	psid/gpm	0.378	0.319	0.247	0.221	0.217	0.209	0.038
		bar/lpm	0.007	0.006	0.004	0.004	0.004	0.004	0.001
	L13	psid/gpm	0.237	0.200	0.155	0.139	0.136	0.131	0.024
		bar/lpm	0.004	0.004	0.003	0.003	0.002	0.002	0.000
	L16	psid/gpm	0.181	0.153	0.118	0.106	0.104	0.100	0.018
		bar/lpm	0.003	0.003	0.002	0.002	0.002	0.002	0.000
61	L8	psid/gpm	0.488	0.412	0.319	0.286	0.280	0.270	0.049
		bar/lpm	0.009	0.008	0.006	0.005	0.005	0.005	0.001
	L13	psid/gpm	0.307	0.259	0.201	0.180	0.176	0.170	0.031
		bar/lpm	0.006	0.005	0.004	0.003	0.003	0.003	0.001
	L16	psid/gpm	0.161	0.136	0.105	0.095	0.093	0.089	0.016
		bar/lpm	0.003	0.002	0.002	0.002	0.002	0.002	0.000

<sup>1</sup>Max flow rates and  $\Delta P$  factors assume  $\mu = 150$  SUS, 32 cSt. See filter assembly sizing guideline for viscosity conversion formula.

# PFH62 Specifications

Dimensions	See Installation Drawings on page 3 for model specific dimensions.			
Weight	<b>PFH62 L8</b> 33 lbs(15 kg)	<b>PFH62 L13</b> 42 lbs(19 kg)	<b>PFH62 L16</b> 48 lbs(21.8 kg)	
Operating Temperature	-20°F to 250°F (-29°C to 121°C)			
Operating Pressure	6,600 psi (455 bar) max			
Burst Pressure	19,900 psi (1,372 bar) max			
Flow Fatigue Rating	2000 cycles at 0-300 bar per NFPA T3.10.5.1, R2 2000			
ΔP Indicator Trigger	73 psid (5 bard)			
Element Collapse Rating	<b>HP60</b> 290 psid (20 bard) max	<b>HP61</b> 3000 psid (206.8 bard) max	<b>HP964</b> 150 psid (20 bard) max	
Integral Bypass Setting	90 psid (6.2 bard)			
Materials of Construction	<b>Head + Cover</b> Ductile iron	<b>Bowl</b> Seamless steel tubing	<b>Exterior Coating</b> Powder coated	
Media Description	<b>M</b> G8 Dualglass, our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x_{[c]}} \geq 4000$	<b>A</b> G8 Dualglass high performance media combined with water removal scrim. $\beta_{x_{[c]}} \geq 4000$	<b>SF</b> Dynafuzz stainless steel fiber media $\beta_{x_{[c]}} \geq 4000$	<b>W</b> Stainless steel wire mesh media $\beta_{x_{[c]}} \geq 2$
Replacement Elements	To determine replacement elements, use the selected codes from the following page below: <b>Filter Element Part Number</b> HP[Element Type Code] L [Length Code] - [Media Selection Code][Seal Code]		<b>Example</b> HP61L8-2MB	
Fluid Compatibility	Biodegradable and mineral based fluids. For high water based or specified synthetics consult factory.			



# PFH62 Part Number Builder

PFH62       -  -

Connection    Element Type    Collapse    Length    Bypass    ΔP Indicator    Special Options    Media    Seal

Connection	Port Option	Max Flow Rate
<b>C20</b>	1.25" Code 62 flange (6000 psi)	100 gpm (379 lpm)
<b>F20</b>	1.25" Code 61 flange	100 gpm (379 lpm)
<b>F24</b>	1.5" Code 61 flange	150 gpm (568 lpm)
<b>G20</b>	1.25" G thread (BSPP)	100 gpm (379 lpm)
<b>M24</b>	Manifold mount (see installation detail)	150 gpm (568 lpm)
<b>S20</b>	1.25" SAE	100 gpm (379 lpm)
<b>S24</b>	1.5" SAE	125 gpm (473 lpm)

Element Type	
<b>60<sup>1</sup></b>	290 psid (20 bard) cored filter element (HF3 compatible)
<b>61</b>	3000 psid (207 bard) cored filter element (HF3 compatible)
<b>964</b>	Coreless filter element

Element Length	
<b>8</b>	8" (20 cm) nominal element
<b>13</b>	13" (33 cm) nominal element
<b>16</b>	16" (40 cm) nominal element

Bypass	
<b>6</b>	90 psid (6.2 bard) bypass
<b>X<sup>2</sup></b>	No bypass

ΔP Indicator	Indicator Options	Thermal Lockout	Surge Control	Reset
<b>D</b>	Visual / Electrical (DIN 43650)	No	No	Auto
<b>S</b>	Visual / Electrical (DIN 43650)	Yes	Yes	Manual
<b>V</b>	Visual	No	No	Auto
<b>X</b>	No indicator (port plugged)	-	-	-
<b>Y</b>	Visual	Yes	Yes	Manual

Special Options	
<b>C</b>	Reverse flow check valve
<b>M2</b>	Mounting bracket
<b>M3</b>	3/4" manifold bolts (Requires connection M24)

Media Selection	G8 Dualglass	G8 Dualglass + water removal
<b>1M</b>	$\beta_{3, [C]} \geq 4000$	<b>3A<sup>4</sup></b> $\beta_{4, [C]} \geq 4000$
<b>2M<sup>3</sup></b>	$\beta_{4, [C]} \geq 4000$	<b>6A<sup>4</sup></b> $\beta_{6, [C]} \geq 4000$
<b>3M<sup>4</sup></b>	$\beta_{4, [C]} \geq 4000$	<b>12A<sup>4</sup></b> $\beta_{11, [C]} \geq 4000$
<b>6M</b>	$\beta_{6, [C]} \geq 4000$	<b>25A<sup>4</sup></b> $\beta_{22, [C]} \geq 4000$
<b>12M<sup>4</sup></b>	$\beta_{11, [C]} \geq 4000$	
<b>15M<sup>3</sup></b>	$\beta_{11, [C]} \geq 4000$	
<b>16M</b>	$\beta_{16, [C]} \geq 4000$	
<b>25M</b>	$\beta_{22, [C]} \geq 4000$	

	Dynafuzz stainless fiber	Stainless wire mesh
<b>3SF</b>	$\beta_{4, [C]} \geq 4000$	<b>10W</b> 10μ nominal
<b>6SF</b>	$\beta_{6, [C]} \geq 4000$	<b>25W</b> 25μ nominal
<b>10SF</b>	$\beta_{11, [C]} \geq 4000$	<b>40W</b> 40μ nominal
<b>25SF</b>	$\beta_{22, [C]} \geq 4000$	<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>Requires Bypass option 6 selected.

<sup>2</sup>Only available when paired with "H" high collapse element.

<sup>3</sup>Compatible only with Element Type "61", HP61L filter elements.

<sup>4</sup>Compatible only with Element Types "60", HP60L filter elements.

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



# Filtration starts with the filter.

**Lower ISO Codes: Lower Total Cost of Ownership** Hy-Pro filter elements deliver lower operating ISO Codes so you know your fluids are always clean, meaning lower total cost of ownership and reducing element consumption, downtime, repairs, and efficiency losses.

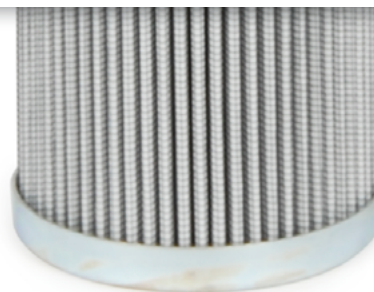
**DFE Rated Filter Elements** DFE is Hy-Pro's proprietary testing process which extends ISO 16889 Multi Pass testing to include real world, dynamic conditions and ensures that our filter elements excel in your most demanding hydraulic and lube applications.

**Upgrade Your Filtration** Keeping fluids clean results in big reliability gains and upgrading to Hy-Pro filter elements is the first step to clean oil and improved efficiency.

**Advanced Media Options** DFE glass media maintaining efficiency to  $\beta_{1, \mu} > 4000$ , Dualglass + water removal media to remove free and emulsified water, stainless wire mesh for coarse filtration applications, and Dynafuzz stainless fiber media for EHC and aerospace applications.

**Delivery in days, not weeks** From a massive inventory of ready-to-ship filter elements to flexible manufacturing processes, Hy-Pro is equipped for incredibly fast response time to ensure you get your filter elements and protect your uptime.

**More than just filtration** Purchasing Hy-Pro filter elements means you not only get the best filters, you also get the unrivaled support, training, knowledge and expertise of the Hy-Pro team working shoulder-to-shoulder with you to eliminate fluid contamination.



**Want to find out more? Get in touch.**

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