

# S75-76

## Low Pressure Spin-On Filter Assemblies

Hy-Pro low pressure S series filters are designed for installation on the return line to remove contaminant ingested or generated by the system. Functions include off-line filtration (kidney loop or filter cart) and some suction applications.

Ideal for automotive manufacturing and assembly machine tools, mobile applications such as waste haulers and transit, filter carts and filter panels, and power unit return line/suction.

**Max Operating Pressure: 200 psi (13.8 bar)**



[hyprofiltration.com/S75](http://hyprofiltration.com/S75)



## Media matters.

DFE rated filter elements stay true to efficiency ratings and ensure the highest level of particulate capture and retention capabilities. And with media options down to  $\beta_{2.5_{[C]}} = 1000$  or  $\beta_{5_{[C]}} = 1000 +$  water removal, you can be sure contamination stays exactly where you want it: out of your fluid.



## Multiple configurations.

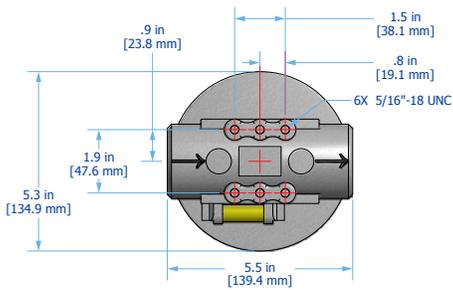
With a variety of connection types and sizes, mounting options, pressure indicators, media options and sample ports, there is a Spin-On assembly to meet the needs for almost any application.

## Double duty.

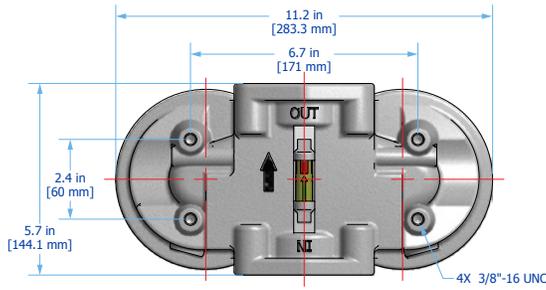
S75D assemblies pack double the punch using two Hy-Pro Spin-Ons in a parallel flow arrangement. Ideal for high flow or high viscosity applications, these assemblies offer unmatched filtration surface area in a compact size.



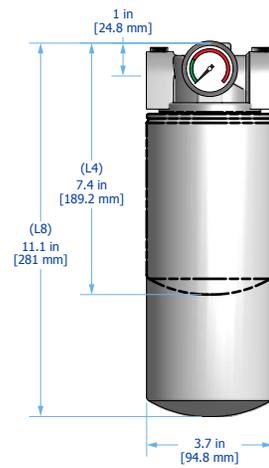
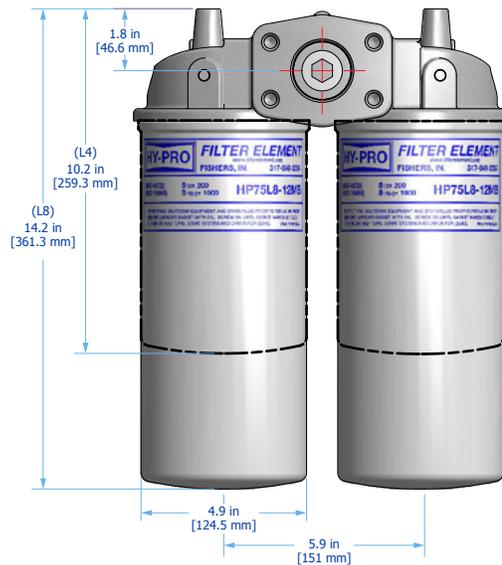
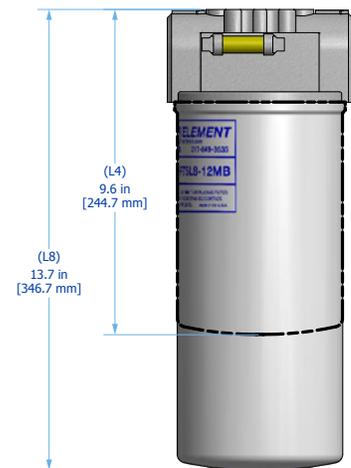
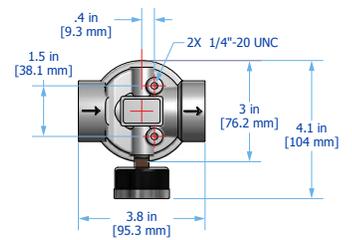
## S75 Installation Drawing



## S75D Installation Drawing



## S76 Installation Drawing



# Filter Assembly Sizing

## 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.

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)

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

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

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

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.



# S75-76 Specifications

Dimensions	See Installation Drawings on page 181 for model specific dimensions.									
Operating Temperature	<b>Fluid Temperature</b>			<b>Ambient Temperature</b>						
	30°F to 225°F (0°C to 105°C)			-4°F to 140°F (-20C to 60C)						
Operating Pressure	200 psi (13.8 bar) max									
ΔP Indicator Trigger	22 psi (1.5 bar) or 44 psi (3.0 bar)									
Element Collapse	100 psid (6.9 bard) max									
Materials of Construction	<b>Head</b>	<b>Can</b>	<b>Element Bypass Valve</b>			<b>Element End Caps</b>				
	Cast aluminum	Stamped steel	Nylon			Zinc or Tin coated carbon steel				
Media Description	<b>M</b>	<b>A</b>	<b>W</b>							
	G8 Dualglass, our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x_{[C]}} = 1000$ ( $\beta_x = 200$ )	G8 Dualglass high performance media combined with water removal scrim. $\beta_{x_{[C]}} = 1000$ ( $\beta_x = 200$ )	Stainless steel wire mesh media $\beta_{x_{[C]}} = 2$ ( $\beta_x = 2$ )							
Replacement Elements	To determine replacement elements, use corresponding codes from your assembly part number:									
	<b>Series</b>	<b>Filter Element Part Number</b>			<b>Example</b>					
S75	HP75L[Length Code] - [Media Selection Code] [Seal Code]			HP75L4-25MV						
S75D	HP75L[Length Code] - [Media Selection Code] [Seal Code]			HP75L8-12AB						
S76	HP76L[Length Code] - [Media Selection Code] [Seal Code]			HP76L8-3MB						
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.									
Filter Sizing <sup>1</sup>	Filter assembly clean element ΔP after actual viscosity correction should not exceed 10% of filter assembly bypass setting. See previous page for filter assembly sizing guidelines. For applications with extreme cold start condition contact Hy-Pro for sizing recommendations.									
ΔP Factors <sup>1</sup>	<b>Series</b>	<b>Length</b>	<b>Units</b>	<b>Media</b>			<b>12M</b>	<b>16M</b>	<b>25M</b>	<b>**W</b>
				<b>1M</b>	<b>3M</b>	<b>6M</b>				
S75	L4	psid/gpm	0.332	0.280	0.217	0.195	0.190	0.183	0.033	
		bard/lpm	0.006	0.005	0.004	0.004	0.003	0.003	0.001	
	L8	psid/gpm	0.183	0.155	0.120	0.107	0.105	0.101	0.018	
		bard/lpm	0.003	0.003	0.002	0.002	0.002	0.002	0.000	
	S75D	L4	psid/gpm	0.166	0.140	0.108	0.097	0.095	0.092	0.017
			bard/lpm	0.003	0.003	0.002	0.002	0.002	0.002	0.000
L8		psid/gpm	0.092	0.077	0.060	0.054	0.053	0.051	0.009	
		bard/lpm	0.002	0.001	0.001	0.001	0.001	0.001	0.000	
S76		L4	psid/gpm	0.573	0.484	0.375	0.336	0.329	0.317	0.057
			bard/lpm	0.010	0.009	0.007	0.006	0.006	0.006	0.001
	L8	psid/gpm	0.310	0.261	0.203	0.182	0.178	0.171	0.031	
		bard/lpm	0.006	0.005	0.004	0.003	0.003	0.003	0.001	
	Series	Length	Units	Media						
				<b>3A</b>	<b>6A</b>	<b>12A</b>	<b>25A</b>	<b>3C</b>	<b>10C</b>	<b>25C</b>
S75	L4	psid/gpm	0.311	0.241	0.216	0.204	0.448	0.292	0.284	
		bard/lpm	0.006	0.004	0.004	0.004	0.008	0.005	0.005	
	L8	psid/gpm	0.172	0.133	0.119	0.113	0.247	0.161	0.157	
		bard/lpm	0.003	0.002	0.002	0.002	0.005	0.003	0.003	
	S75D	L4	psid/gpm	0.156	0.121	0.108	0.102	0.224	0.146	0.142
			bard/lpm	0.003	0.002	0.002	0.002	0.004	0.003	0.003
L8		psid/gpm	0.086	0.067	0.060	0.056	0.124	0.081	0.078	
		bard/lpm	0.002	0.001	0.001	0.001	0.002	0.001	0.001	
S76		L4	psid/gpm	0.533	0.413	0.370	0.349	0.774	0.505	0.491
			bard/lpm	0.010	0.008	0.007	0.006	0.014	0.009	0.009
	L8	psid/gpm	0.288	0.223	0.200	0.188	0.418	0.273	0.265	
		bard/lpm	0.005	0.004	0.004	0.003	0.008	0.005	0.005	

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