

# HIGH PRESSURE FILTERS

## HFM Series

Inline Filters

5800 psi • up to 37 gpm



### Features

- The HFM filter is available in two sizes comprised of two different bowl and element lengths. The models 75 and 95 provide maximum flow rates of 29 and 37 GPM respectively.
- A quick-response by-pass valve located in the filter head, protects against high differential pressures caused by cold start-ups, flow surges and pressure spikes.
- The high bypass pressure setting (100 psid) minimizes the possibility of contamination due to premature bypassing.
- Filter materials are compatible with all mineral, lubricating oils, and commonly used fire retardant fluids per ISO 2943.
- Fatigue pressure rating equals maximum allowable working pressure rating.
- Wide variety of indicators available with standard setting of 72 psid (5 bar).

### Applications



Agricultural



Automotive



Construction



Gearboxes



Industrial

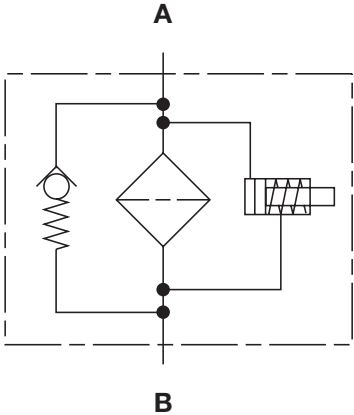


Commercial  
Municipal



Power  
Generation

### Hydraulic Symbol



### Technical Specifications

<b>Mounting Method</b>	3 or 4 mounting holes - filter head
<b>Port Connection</b>	SAE 16, 1" BSPP
<b>Flow Direction</b>	Inlet: Side      Outlet: Side (opposite each other)
<b>Construction Materials</b>	Head: Ductile iron Bowl: Steel
<b>Flow Capacity</b>	75: 29 gpm (110 lpm) 95: 37 gpm (140 lpm)
<b>Housing Pressure Rating</b>	Max. Allowable Working Pressure: 5800 psi (400 bar) Fatigue Pressure: Contact HYDAC office Burst Pressure: 13,920 psi (960 bar)
<b>Element Collapse Pressure Rating</b>	ON: 290 psid (20 bar)
<b>Fluid Temperature Range</b>	14°F to 212°F (-10°C to 100°C) Consult HYDAC for applications below 14°F (-10°C)
<b>Fluid Compatibility</b>	Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.
<b>Indicator Trip Pressure</b>	$\Delta P = 72 \text{ psid (5 bar) } -10\% \text{ (standard)}$
<b>Bypass Valve Cracking Pressure</b>	$\Delta P = 101.5 \text{ psid (7 bar) } +10\% \text{ (standard)}$

## Model Code

		<b>HFM</b>	<b>ON</b>	<b>95</b>	<b>S</b>	<b>K</b>	<b>10</b>	<b>A</b>	<b>1</b>	<b>.</b>	<b>0</b>	<b>/</b>	<b>V</b>	<b>B7</b>
<b>Filter Type</b>	HFM = In-Line High Pressure Filter													
<b>Element Media</b>	ON = Optimicron® (Low Collapse)													
<b>Size</b>	75 = 29 gpm 95 = 37 gpm													
<b>Operating Pressure</b>	S = 5800 psi (400 bar)													
<b>Type of Connection</b>	J = 1" threaded (1" BSPP) K = 1" threaded (1 5/16" threaded-12UN)=SAE 16													
<b>Filtration Rating (microns)</b>	1, 3, 5, 10, 15, 20 = ON													
<b>Type of Clogging Indicator</b>	A, B, BM, C, D (Others available upon request, see Clogging Indicators section.)													
<b>Type Number</b>	1													
<b>Type Modification Number (latest version always supplied)</b>														
<b>Seals</b>	(omit) = Nitrile rubber (NBR) (standard) V = Fluorocarbon elastomer (FKM)													
<b>Bypass Valve</b>	B3.5 = 50.75 psid (3.5 bar) (optional) B7 = 101.5 psid (7 bar) (standard)													
<b>Supplementary Details</b>	SO263 = Modification of elements for Skydrol or HYJET phosphate ester fluids W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC) L24, L48, L110, L220 = Lamp for D-type clogging indicator (LXX, XX = voltage) LED = 2 LEDs up to a voltage of 24 Volt T100 = Thermal lockout on indicator at 100°F (C and D indicators only) SFREE = Element specially designed to minimize electrostatic charge generation cRUus = Electrical Indicator with underwriter's recognition SO376 = Modification of ON and W/HC elements for HFA, HFB, HFC, and HFD flame retardant liquids SO882 = Quality Protection Design													

## Replacement Element Model Code

		<b>0095</b>	<b>D</b>	<b>010</b>	<b>ON</b>	<b>/</b>	<b>V</b>
<b>Size</b>	0075, 0095						
<b>Filtration Rating (micron)</b>	1, 3, 5, 10, 15, 20 = BN4HC						
<b>Element Media</b>	ON = Optimicron®						
<b>Seals</b>	(omit) = Nitrile rubber (NBR) (standard) V = Fluorocarbon elastomer (FKM)						
<b>Supplementary Details</b>	SO263 = (same as above) SFREE = (same as above) SO376 = (same as above) SO882 = (same as above)						

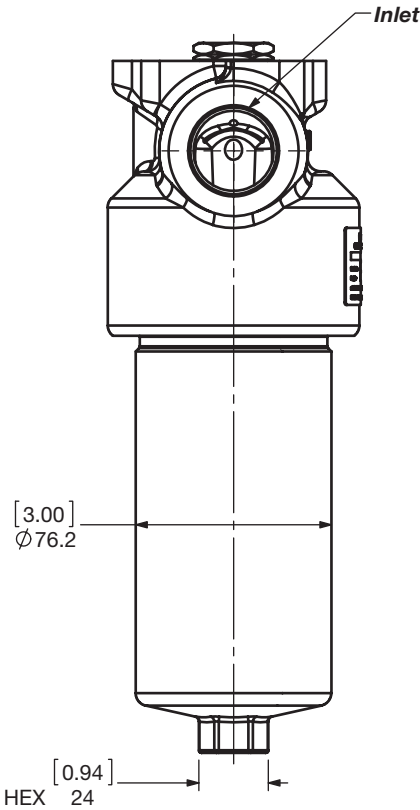
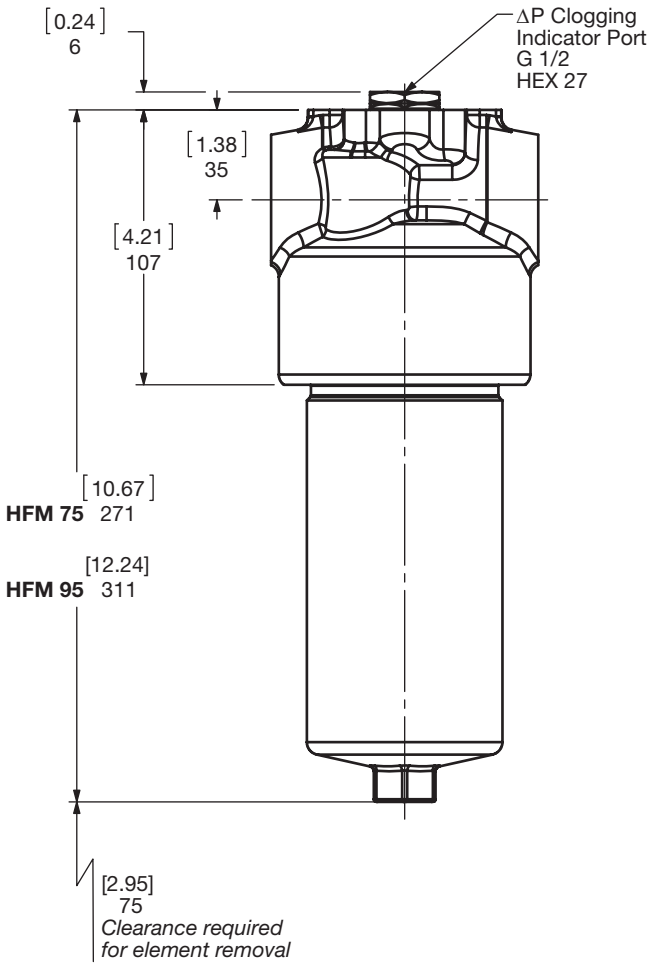
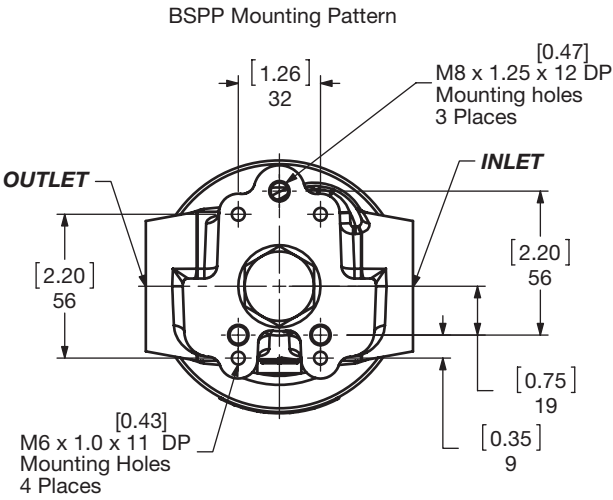
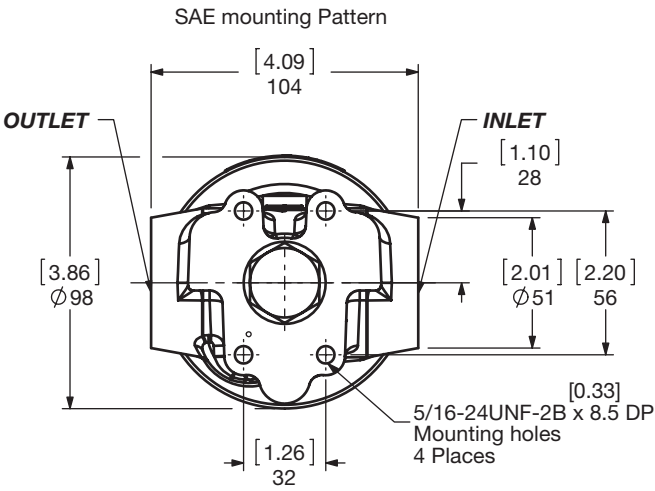
## Clogging Indicator Model Code

		<b>VD</b>	<b>5</b>	<b>B</b>	<b>.</b>	<b>X</b>	<b>/</b>	<b>V</b>
<b>Indicator Prefix</b>	VD = G 1/2 6000 psi							
<b>Trip Pressure</b>	2 = 29 psid (2 bar) (option) 5 = 72 psid (5 bar) (standard) Optional 15 psid (1 bar) & 116 psid (8 bar) available upon request							
<b>Type of Indicator</b>	A = No indicator, plugged port B = Pop-up indicator (auto reset) BM = Pop-up indicator (manual reset) C = Electric switch - SPDT D = Electric switch and LED light - SPDT							
<b>Modification Number</b>								
<b>Supplementary Details</b>	Seals (omit) = Nitrile rubber (NBR) (standard) V = Fluorocarbon elastomer (FKM) Light Voltage (D type indicators only) L24 = 24V L110 = 110V Thermal Lockout (VM, VD types C, D, J, and J4 only) T100 = Lockout below 100°F Underwriters Recognition (VM, VD types C, D, J, and J4 only) cRUus = Electrical Indicator with underwriter's recognition W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC) (For additional details and options, see Clogging Indicators section.)							

Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

# HIGH PRESSURE FILTERS

Dimensions  
HFM 75/95



Size	75	95
Weight (lbs.)	12.4	13.5

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include element.  
For complete dimensions please contact HYDAC to request a certified print.

Sizing Information

Total pressure loss through the filter is as follows:

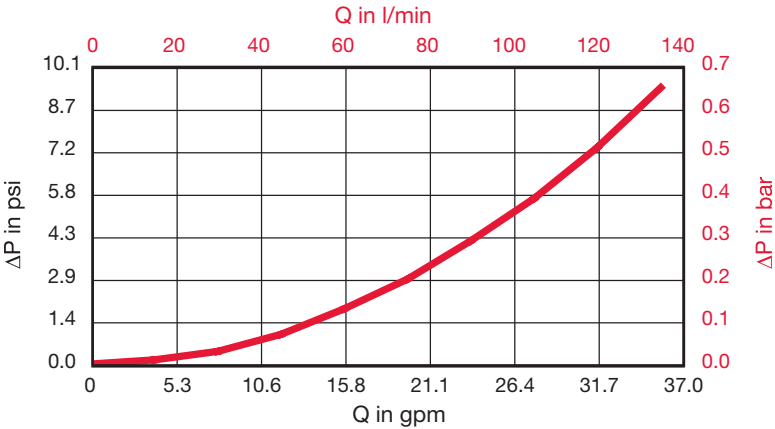
Assembly ΔP = Housing ΔP + Element ΔP

Housing Curve:

Pressure loss through housing is as follows:

Housing ΔP = Housing Curve ΔP ×  $\frac{\text{Actual Specific Gravity}}{0.86}$

Adjustments must be made for viscosity & specific gravity of the fluid to be used! (see “Sizing HYDAC Filter Assemblies” in Section B - Overview)



Element K Factors

ΔP Elements = Elements (K) Flow Factor × Flow Rate (gpm) ×  $\frac{\text{Actual Viscosity (SUS)}}{141 \text{ SUS}}$  ×  $\frac{\text{Actual Specific Gravity}}{0.86}$ 
  
(From Tables Below)

Optimicron	...D...ON (Pressure Elements)					
Size	1 μm	3 μm	5 μm	10 μm	15 μm	20 μm
0075 D XXX ON	0.916	0.461	0.37	0.296	0.183	0.136
0095 D XXX ON	0.724	0.37	0.296	0.238	0.144	0.105

All Element K Factors in psi / gpm.