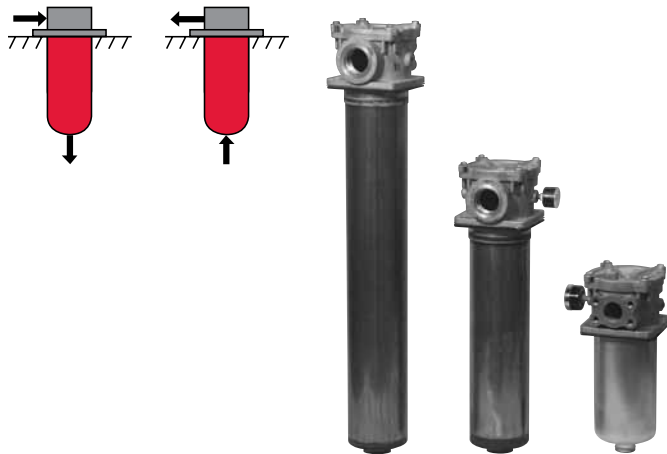
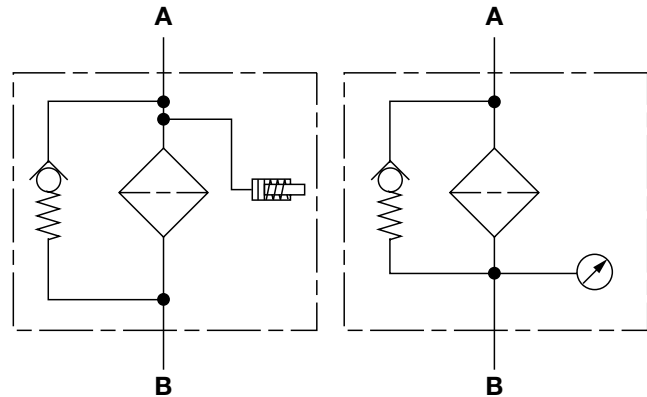


## HF4R(S) Series In-Tank Return Line / Suction Filters 100 psi • up to 120 gpm



### Hydraulic Symbol



### Features

- Designed to meet and comply with HF4 Automotive standard and SAE J2066 standard.
- Inlet port options include SAE straight thread O-ring boss, SAE Flange, and NPT ports to allow easy installation without costly adapters.
- O-ring seals are used to provide positive, reliable sealing. Choice of Nitrile, Fluoroelastomer or EPDM O-ring material provides compatibility with petroleum oils, synthetic fluids, water-glycols, oil/water emulsions, and water base fluids.
- In-tank design requires minimal space for installation.
- Provision is made for an additional inlet port to allow two return lines to be connected to the same filter.
- 9" filters include 1 1/2" hose barb outlet.
- 18" and 27" filters include 1 1/2" threaded NPT outlet.

### Technical Details

<b>Mounting Method</b>	4 mounting holes - filter housing	
<b>Port Connection</b>		
Inlet	SAE-24, 1 1/2" NPT, 1 1/4" BSPP, 1 1/2" Flange, Code 61	
Outlet		
HF4R09	1 1/2" Hose Barb	
HF4R18/27	1 1/2" NPT male	
<b>Flow Direction</b>	Inlet	Outlet
HF4R	Side	Bottom
HF4S	Bottom	Side
<b>Construction Materials</b>		
Head, Lid	Aluminum	
Bowl	Steel	
<b>Flow Capacity</b>		
HF4R09	50 gpm (189 lpm)	
HF4R18	100 gpm (378 lpm)	
HF4R27	120 gpm (454 lpm)	
<b>Housing Pressure Rating</b>		
Max. Operating Pressure	100 psi (7 bar)	
Proof Pressure	150 psi (10.3 bar)	
Fatigue Pressure	Contact HYDAC	
Burst Pressure	Contact HYDAC	
<b>Element Collapse Pressure Rating</b>		
BN, W, P/HC	150 psid (10 bar)	
Fluid Temperature Range	-22° to 250°F (-30° to 121°C)	
<b>Fluid Compatibility</b>		
Compatible with all petroleum oils and synthetic fluids rated for use with Fluoroelastomer or Ethylene Propylene seals. Contact HYDAC for information on special housing and element constructions available for use with water glycols, oil/water emulsions, and HWBF.		
<b>Indicator Trip Pressure</b>		
P = 1 psi (0.08 bar) -10%	P = 20 psi (1.4 bar) -10%	
P = 10 psi (0.8 bar) -10%	P = 29 psi (2 bar) -10%	
<b>Bypass Valve Cracking Pressure</b>		
ΔP = 3 psid (0.2 bar) +10%	ΔP = 25 psid (1.7 bar) +10%	
ΔP = 15 psid (1 bar) +10%	ΔP = 43 psid (3 bar) +10%	

### Applications



Agricultural



Automotive



Construction



Gearboxes

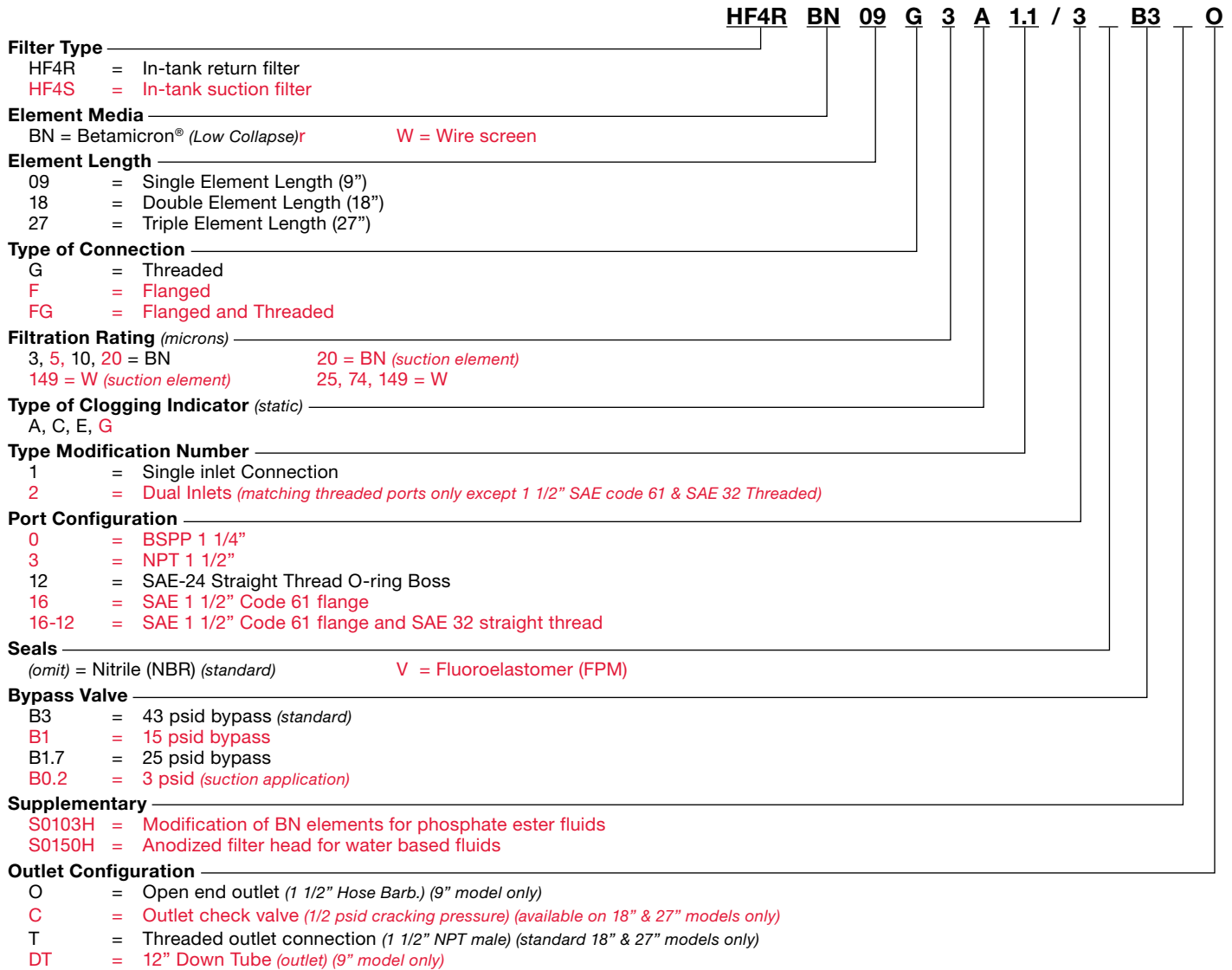


Industrial

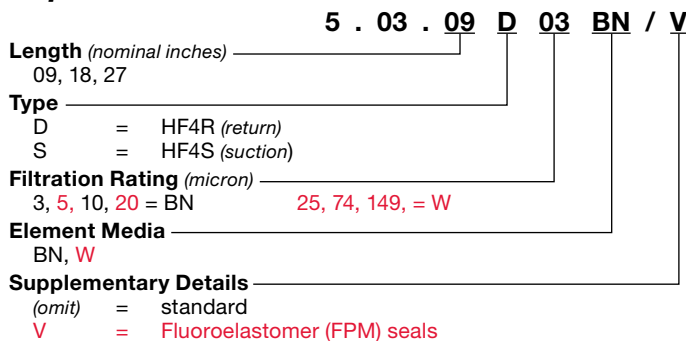


Steel / Heavy Industry

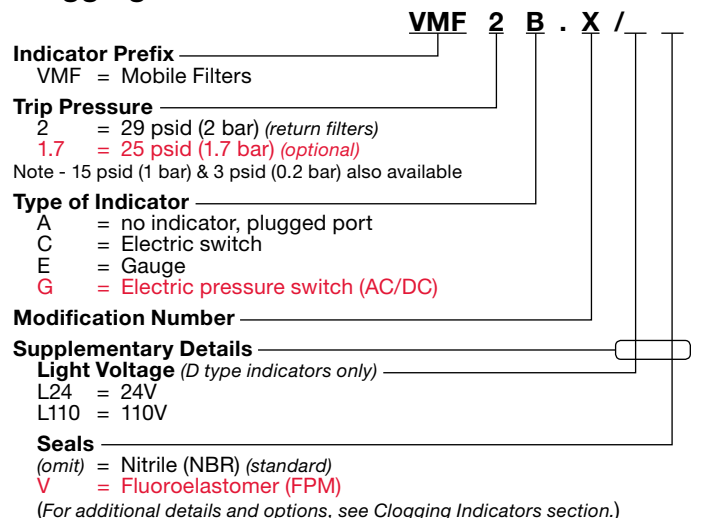
## Model Code



## Replacement Element Model Code

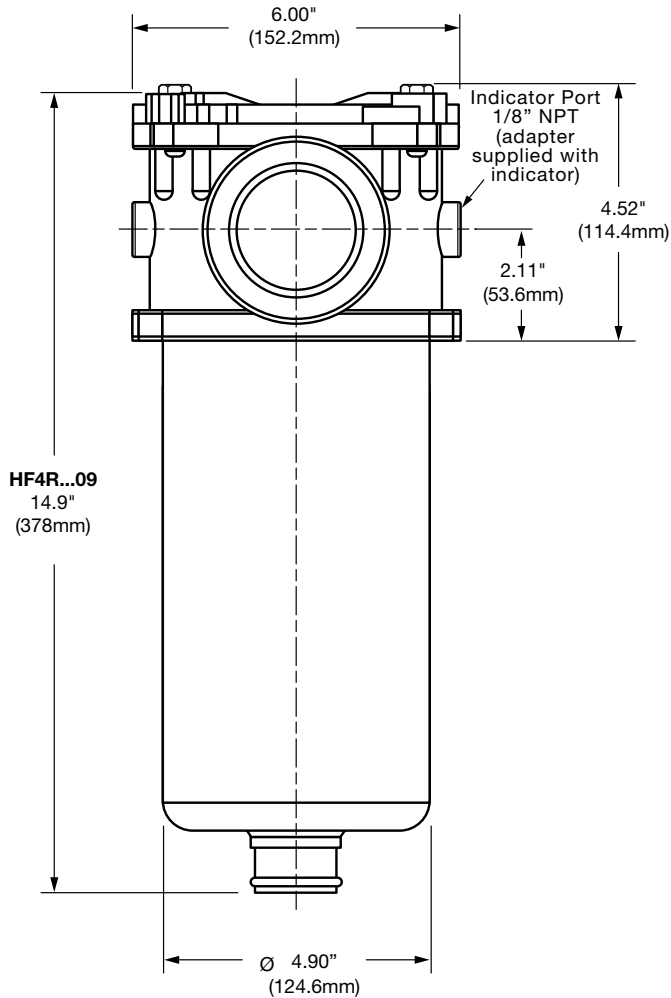


## Clogging Indicator Model Code

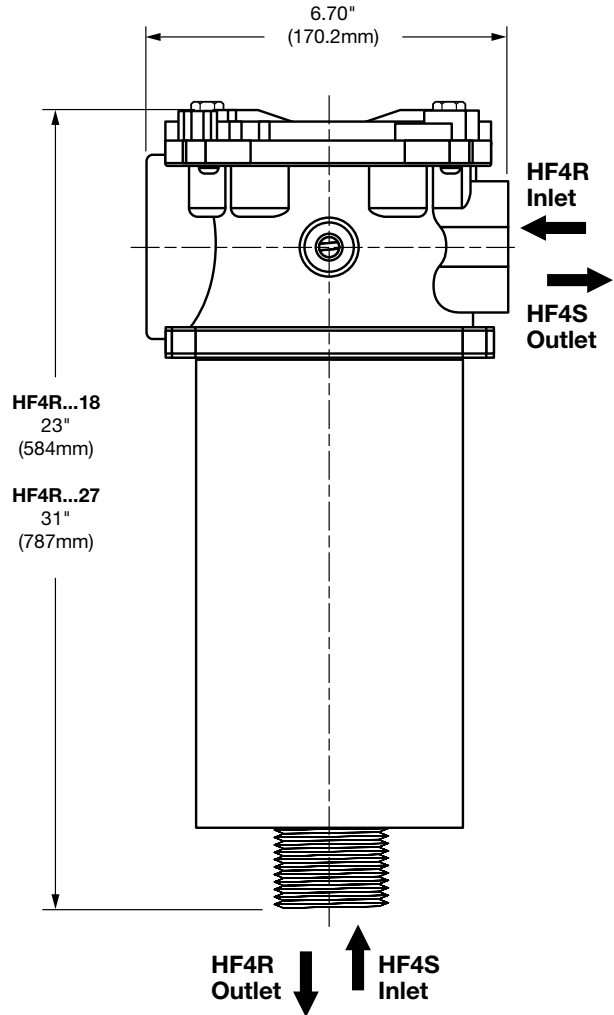


Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

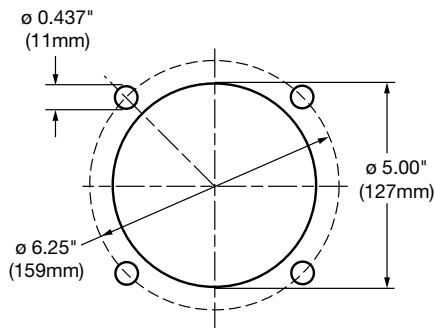
## Dimensions HF4R...09



## HF4R...18 / 27



## Mounting Pattern



Size	09	18	27
Weight (lbs.)	10.0	14.5	18.6

Dimensions shown are for general information and overall envelope size only. Weights listed are without element. For complete dimensions please contact HYDAC to request a certified print.

## Sizing Information

Total pressure loss through the filter is as follows:

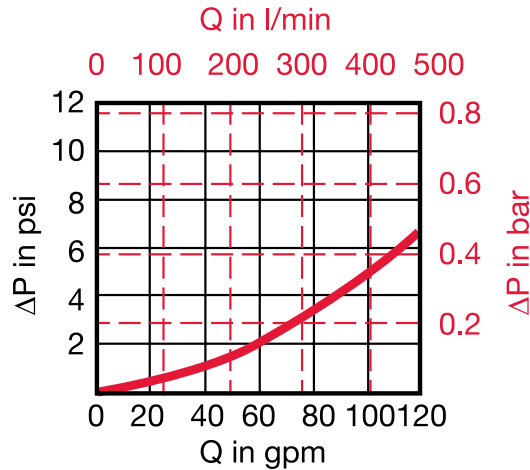
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

### Housing Curve:

Pressure loss through housing is as follows:

$$\text{Housing } \Delta P = \text{Housing Curve } \Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Adjustments must be made for viscosity & specific gravity of the fluid to be used! (see sizing section on page 19)



## Element K Factors

$$\Delta P \text{ Elements} = \text{Elements (K) Flow Factor} \times \text{Flow Rate (gpm)} \times \frac{\text{Actual Viscosity (SUS)}}{141 \text{ SUS}} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

(From Tables Below)

Size	5.03.XXDBN			
	3 μm	5 μm	10 μm	20 μm
09	0.1680	0.1405	0.0788	0.0443
18	0.0800	0.0669	0.0375	0.0211
27	0.0517	0.0432	0.0242	0.0136

Size	5.03.XXD W/HC
	25, 50, 74, 100, 149, 200 μm
09	0.007
18	0.004
27	0.002

All Element K Factors in psi / gpm.