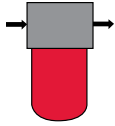
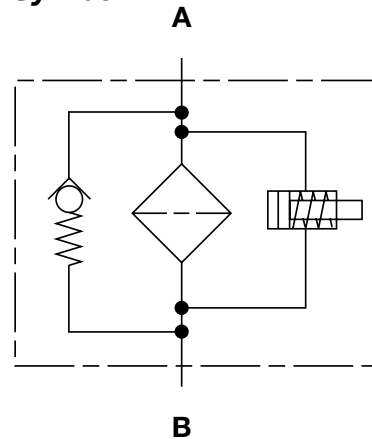


LF Series Inline Filters

1500 psi • up to 180 gpm



Hydraulic Symbol



Features

- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- Aluminum alloy is water tolerant - anodization is not required for water based fluids (HWBF).
- Inlet & outlet port options include NPT and SAE straight thread O-ring boss to allow easy installation without costly adapters.
- O-ring seals are used to provide positive, reliable sealing. Choice of O-ring materials (Nitrile, Fluoroelastomer, EPDM) provides compatibility with petroleum oils, synthetic fluids, water-glycols, oil/water emulsions, and high water base fluids.
- Screw-in bowl mounted below the filter head requires minimal clearance to remove the element for replacement, and contaminated fluid cannot be washed downstream when element is serviced.
- Differential Pressure Indicators. HYDAC indicators have no external dynamic seal. This results in a high system reliability due to magnetic actuation, thus eliminating a potential leak point.
- A poppet-type bypass valve (optional) is separate from the main flow path (except LF 60 / 110) to provide positive sealing during normal operation and fast opening during cold starts and flow surges.
- For special finishes and coatings – consult HYDAC for minimum quantities, availability and pricing.

Applications



Agricultural



Automotive



Construction



Industrial



Railways

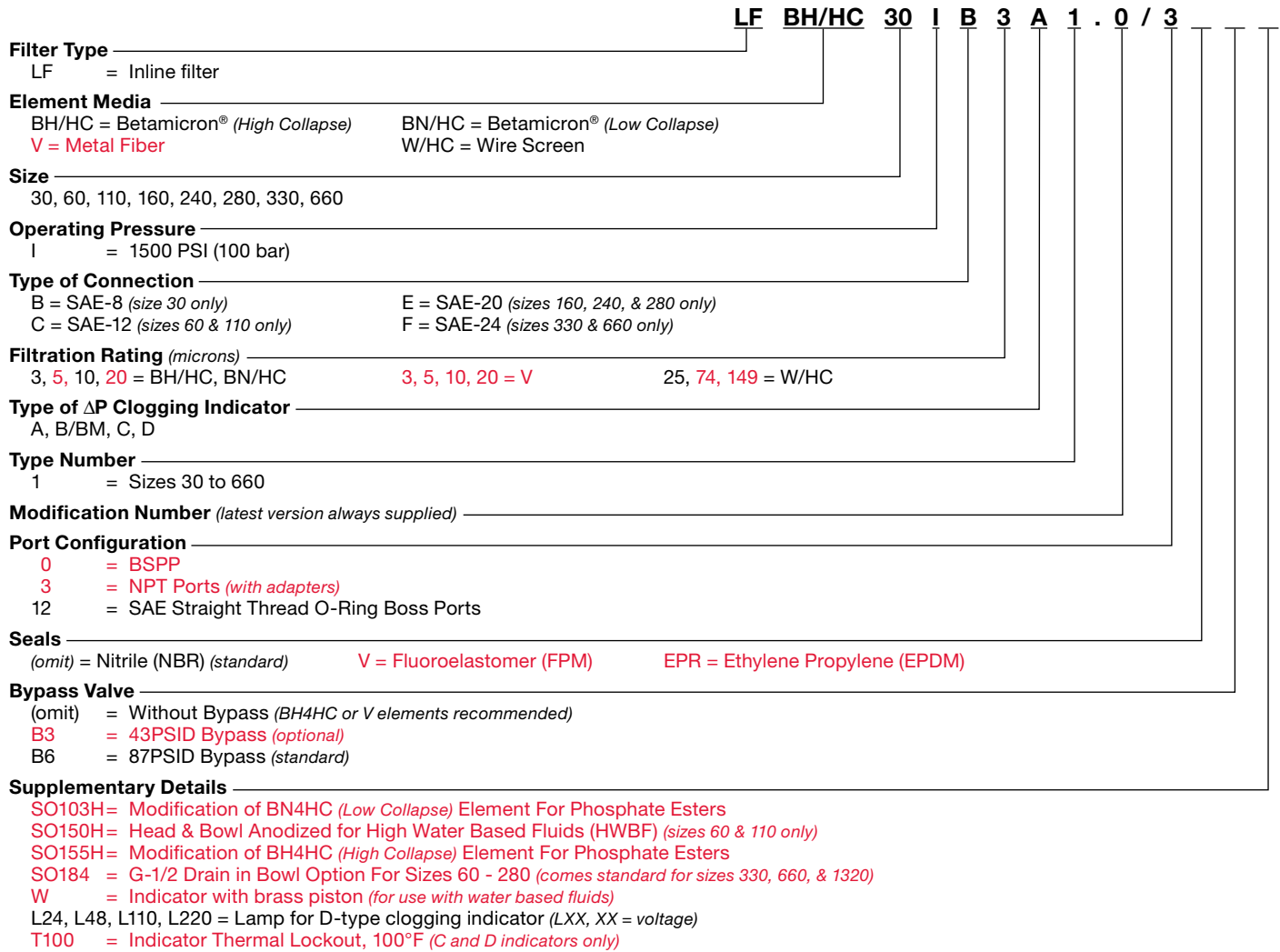


Steel / Heavy Industry

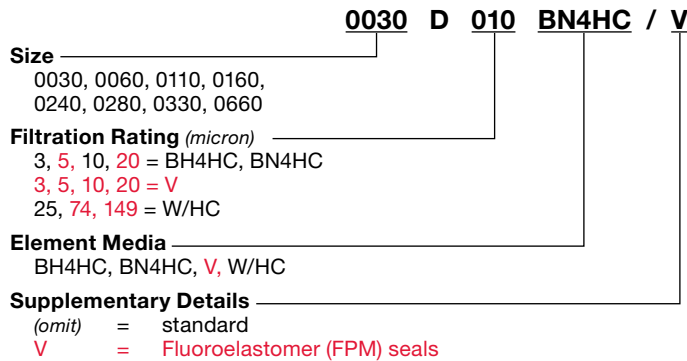
Technical Details

| | | |
|---|---|--------------|
| Mounting Method | 4 mounting holes | |
| Port Connection | 30 SAE-8, 1/2" NPT, 1/2" BSPP 60/110 SAE-12, 3/4" NPT, 3/4" BSPP 160/240/280 SAE-20, 1 1/4" NPT, 1 1/4" BSPP 330/660 SAE-24, 1 1/2" NPT, 1 1/2" BSPP | |
| Flow Direction | Inlet: Side | Outlet: Side |
| Construction Materials | Head Cast Aluminum Bowl Aluminum Extrusion (sizes 30 - 330) Steel (sizes 280 & 660) | |
| Flow Capacity | 30 8 gpm (30 lpm) 60 16 gpm (60 lpm) 110 29 gpm (110 lpm) 160 42 gpm (160 lpm) 240 63 gpm (240 lpm) 280 74 gpm (280 lpm) 330 84 gpm (330 lpm) 660 174 gpm (660 lpm) | |
| Housing Pressure Rating | Max. Operating Pressure 1500 psi (100 bar) Proof Pressure 2250 psi (150 bar) Fatigue Pressure 1500 psi (100 bar) Burst Pressure size 30 5510 psi (380bar) sizes 60 - 660 > 6090 psi (420 bar) | |
| Element Collapse Pressure Rating | BH/HC, V 3045 psid (210 bar) BN/HC, W/HC 290 psid (20 bar) | |
| Fluid Temperature Range | -22° to 250°F (-30° to 121°C) | |
| Fluid Compatibility | 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. | |
| Indicator Trip Pressure | $\Delta P = 29$ psid (2 bar) -10% (optional) $\Delta P = 72$ psid (5 bar) -10% (standard) | |
| Bypass Valve Cracking Pressure | $\Delta P = 43$ psid (3 bar) +10% (optional) $\Delta P = 87$ psid (6 bar) +10% (standard) | |

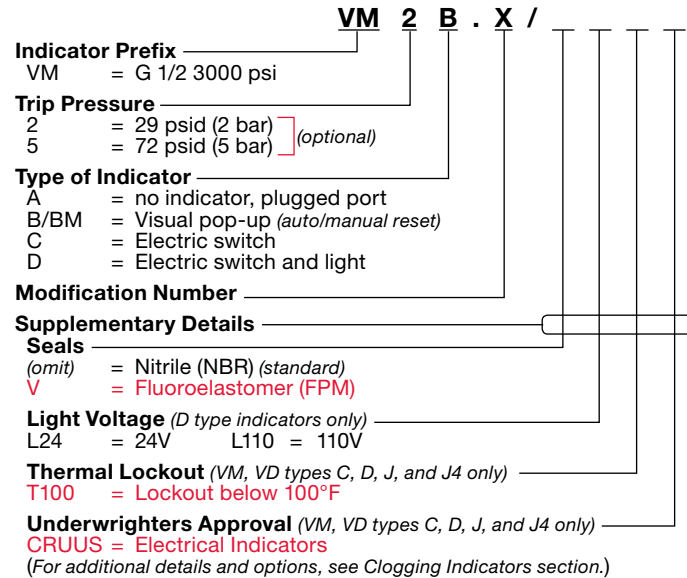
Model Code



Replacement Element Model Code



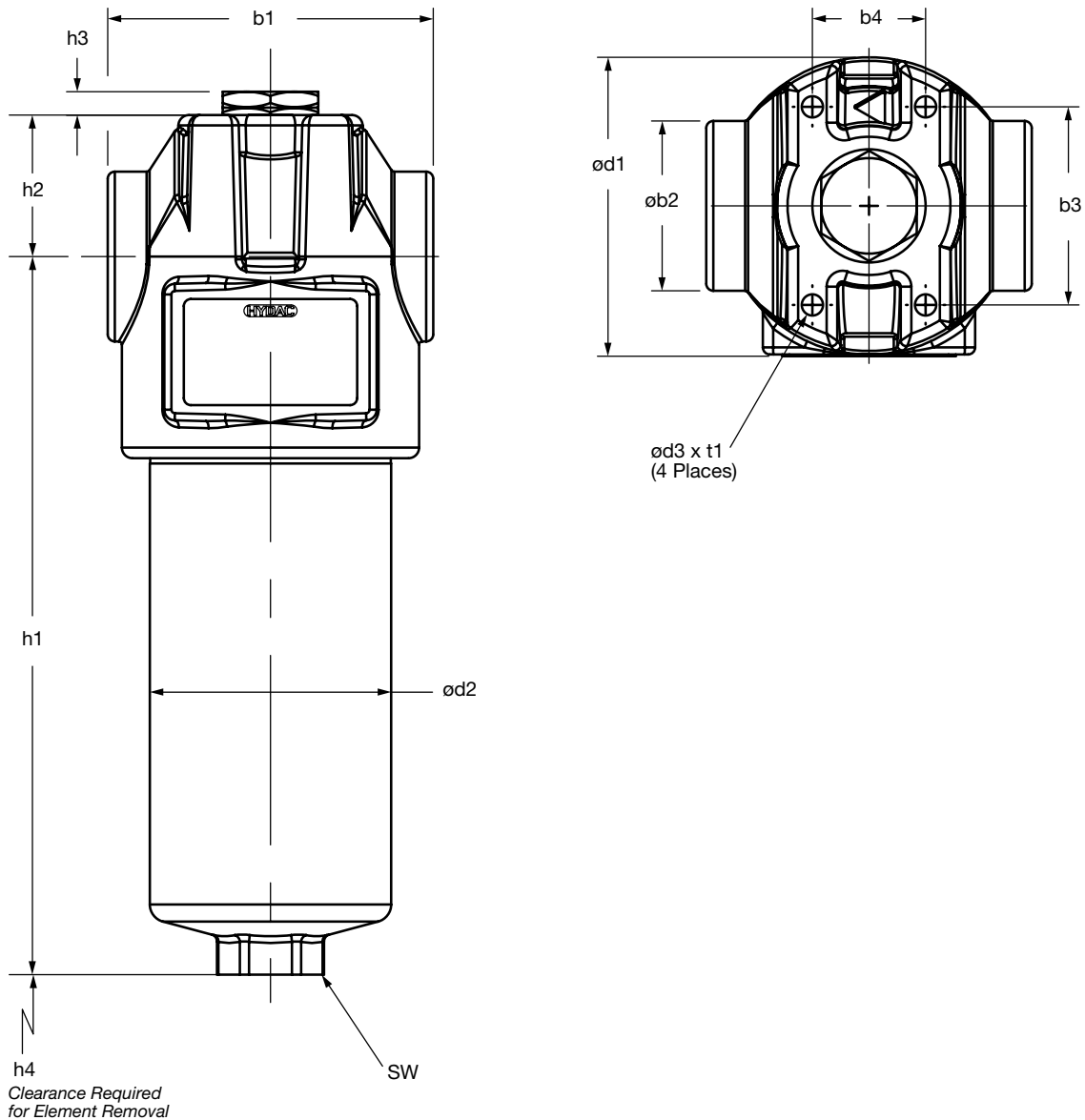
Clogging Indicator Model Code



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

HYDAC Medium Pressure Filters

Dimensions LF 30 - 660



| Size | b1 | b2 | b3 | b4 | d1 | d2 | d3 | h1 | h2 | h3 | h4 | SW | t1 |
|------|----------------|---------------|----------------|---------------|----------------|----------------|--------------|-------------------|---------------|----------------|----------------|---------------|----------------|
| 30 | 2.72" 69mm | 1.42" 36mm | 1.77" 45mm | 1.18" 30mm | 2.64" 67mm | 2.05" 52mm | 10-32UNF-2B | 4.94" 125.5mm | 1.22" 31mm | 0.27" 7.0mm | 2.95" 75mm | 0.94" 24mm | 0.24" 6.0mm |
| 60 | 3.54" 90mm | 1.89" 48mm | 2.20" 56mm | 1.26" 32mm | 3.31" 84mm | 2.68" 68mm | 1/4-28UNF-2B | 5.41" 137.5mm | 1.53" 39mm | 0.24" 6.0mm | 2.95" 75mm | 1.06" 27mm | 0.35" 9.0mm |
| 110 | 3.54" 90mm | 1.89" 48mm | 2.20" 56mm | 1.26" 32mm | 3.31" 84mm | 2.68" 68mm | 1/4-28UNF-2B | 8.15" 207mm | 1.53" 39mm | 0.24" 6.0mm | 2.95" 75mm | 1.06" 27mm | 0.35" 9.0mm |
| 160 | 4.92" 125mm | 2.56" 65mm | 3.35" 85mm | 1.38" 35mm | 4.57" 116mm | 3.74" 95mm | 3/8-24UNF-2B | 7.50" 190.5mm | 1.81" 46mm | 0.24" 6.0mm | 3.74" 95mm | 1.26" 32mm | 0.55" 14mm |
| 240 | 4.92" 125mm | 2.56" 65mm | 3.35" 85mm | 1.38" 35mm | 4.57" 116mm | 3.74" 95mm | 3/8-24UNF-2B | 9.86" 250.5mm | 1.81" 46mm | 0.24" 6.0mm | 3.74" 95mm | 1.26" 32mm | 0.55" 14mm |
| 280 | 4.92" 125mm | 2.56" 65mm | 3.35" 85mm | 1.38" 35mm | 4.57" 116mm | 3.74" 95mm | 3/8-24UNF-2B | 9.86" 250.5mm | 1.81" 46mm | 0.24" 6.0mm | 3.74" 95mm | 1.26" 32mm | 0.55" 14mm |
| 330 | 6.26" 159mm | 3.35" 85mm | 4.53" 115mm | 2.36" 60mm | 6.30" 160mm | 5.12" 130mm | 1/2-20UNF-2B | 9.94" 252.5mm | 1.97" 50mm | 0.24" 6.0mm | 4.13" 105mm | 1.42" 36mm | 0.47" 12mm |
| 660 | 6.26" 159mm | 3.35" 85mm | 4.53" 115mm | 2.36" 60mm | 6.30" 160mm | 5.12" 130mm | 1/2-20UNF-2B | 16.44" 417.5mm | 1.97" 50mm | 0.24" 6.0mm | 4.13" 105mm | 1.42" 36mm | 0.47" 12mm |

| Size | 30 | 60 | 110 | 160 | 240 | 280 | 330 | 660 |
|---------------|------|-----|------|------|-----|------|------|------|
| Weight (lbs.) | 1.76 | 3.3 | 3.96 | 8.15 | 9.5 | 25.6 | 17.6 | 38.8 |

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:

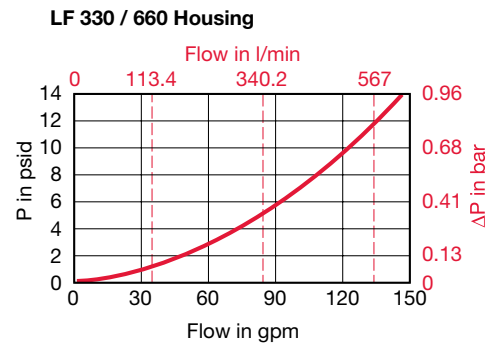
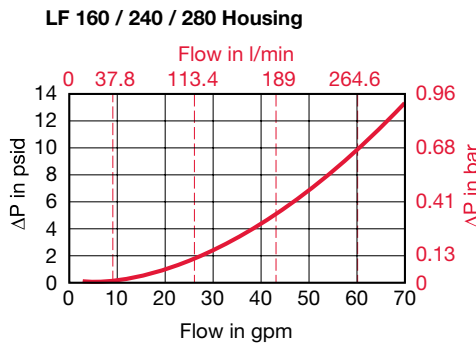
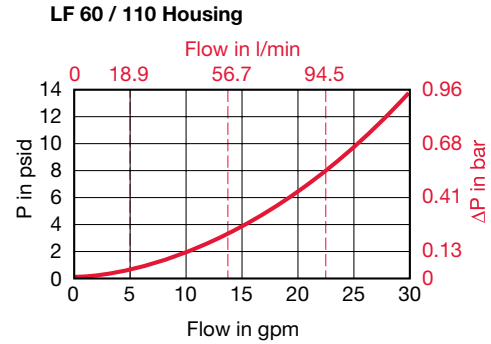
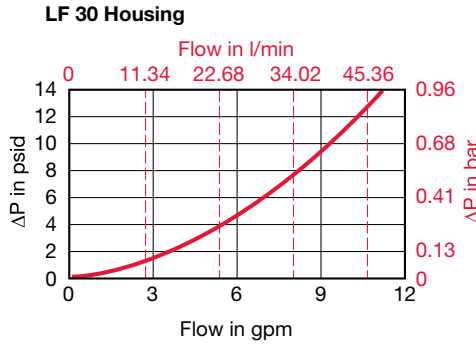
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

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

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

(From Tables Below)

| Size | ...D...BN4HC (Betamicon® Low Collapse) | | | |
|------|--|-------|-------|-------|
| | 3 μm | 5 μm | 10 μm | 20 μm |
| 0030 | 3.504 | 2.374 | 1.251 | 0.618 |
| 0060 | 1.582 | 1.116 | 0.723 | 0.433 |
| 0110 | 0.819 | 0.585 | 0.361 | 0.205 |
| 0160 | 0.718 | 0.480 | 0.252 | 0.193 |
| 0240 | 0.450 | 0.333 | 0.196 | 0.128 |
| 0280 | 0.220 | 0.171 | 0.092 | 0.071 |
| 0330 | 0.294 | 0.215 | 0.163 | 0.095 |
| 0660 | 0.136 | 0.099 | 0.061 | 0.044 |

| Size | ...D...BH4HC (Betamicon® High Collapse) | | | |
|------|---|-------|-------|-------|
| | 3 μm | 5 μm | 10 μm | 20 μm |
| 0030 | 5.000 | 2.780 | 1.989 | 1.042 |
| 0060 | 3.210 | 1.785 | 0.993 | 0.669 |
| 0110 | 1.394 | 0.819 | 0.488 | 0.307 |
| 0160 | 0.919 | 0.569 | 0.322 | 0.240 |
| 0240 | 0.578 | 0.374 | 0.214 | 0.158 |
| 0280 | 0.313 | 0.184 | 0.097 | 0.090 |
| 0330 | 0.422 | 0.244 | 0.154 | 0.108 |
| 0660 | 0.179 | 0.106 | 0.055 | 0.049 |

| Size | ...D...V Elements | | | |
|------|-------------------|-------|-------|-------|
| | 3 μm | 5 μm | 10 μm | 20 μm |
| 0030 | 1.011 | 0.740 | 0.411 | 0.200 |
| 0060 | 0.877 | 0.511 | 0.296 | 0.183 |
| 0110 | 0.452 | 0.304 | 0.182 | 0.118 |
| 0160 | 0.251 | 0.177 | 0.123 | 0.079 |
| 0240 | 0.169 | 0.137 | 0.093 | 0.062 |
| 0280 | 0.126 | 0.093 | 0.064 | 0.041 |
| 0330 | 0.121 | 0.097 | 0.065 | 0.043 |
| 0660 | 0.063 | 0.050 | 0.034 | 0.021 |

| Size | ...D...W/HC Elements | | | |
|------|------------------------------|--|--|--|
| | 25, 50, 74, 100, 149, 200 μm | | | |
| 0030 | 0.166 | | | |
| 0060 | 0.042 | | | |
| 0110 | 0.023 | | | |
| 0160 | 0.016 | | | |
| 0240 | 0.010 | | | |
| 0280 | 0.009 | | | |
| 0330 | 0.008 | | | |
| 0660 | 0.004 | | | |

All Element K Factors in psi / gpm.