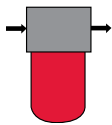


LOW PRESSURE FILTERS

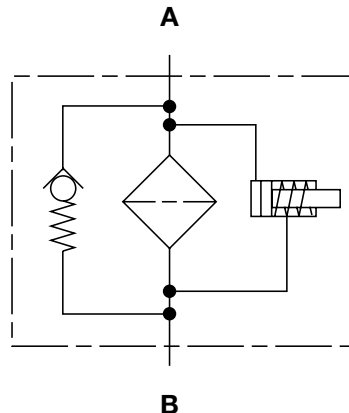
FLN Series

Inline Filters

360 psi • up to 100 gpm



Hydraulic Symbol



Features

- Aluminum alloy is water tolerant - anodization is not required for high water based fluids (HWBF).
- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- SAE straight thread O-ring boss porting to allow easy installation without costly adapters.
- O-ring axial seals are used to provide positive, reliable sealing.
- 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 mounted in-line between the inlet and outlet ports to provide positive sealing during normal operation and fast opening during cold starts and flow surges.
- This filter can be modified to meet the requirements of DIN 24550* as follows:
 - Filter size 0160 with G 1-1/4" port selection
 - Filter size 0250 with G 1-1/2" port selection
 - Filter size 0400 with SAE-DN 38 1-1/2" Flange
- Bypass versions of FLN filters have the bypass valve located in the filter head.

*Note - QPD design does not meet DIN 24550.

Technical Specifications

Mounting Method	2 mounting holes in the filter head
Port Connection	Inlet / Outlet 1-1/4" Threaded – SAE 20, 1-1/4" BSPP 1-1/2" Threaded – SAE 24, 1-1/2" BSPP 1-1/2" Flange-SAE-DN 38 Code 61
Flow Direction	Inlet: Side Outlet: Opposite Side
Construction Materials	
Head, Bowl	Aluminum
Flow Capacity	
160	43 gpm (160 lpm)
250	66 gpm (250 lpm)
400	105 gpm (400 lpm)
Housing Pressure Rating	
Max. Allowable Working Pressure:	360 psi (25 bar)
Fatigue Pressure	360 psi (25 bar)
Burst Pressure	1450 psi (100 bar)
Element Collapse Pressure Rating	
BN4HC, W/HC	290 psid (20 bar)
BH4HC	3045 psid (210 bar)
Fluid Temperature Range -22°F to 212°F (-30°C to 100°C)	
Consult HYDAC for applications below -22°F (-30°C)	
Fluid Compatibility	
Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.	
Indicator Trip Pressure	
ΔP = 36.25 psid (2.5 bar) -10% (standard)	
ΔP = 72 psid (5 bar) -10%	
ΔP = 116 psid (8 bar) -10%	
Bypass Valve Cracking Pressure	
ΔP = 50.75 psid (3.5 bar) +10% (standard)	
ΔP = 102 psid (7 bar) +10%	

Applications



Agricultural



Automotive



Construction



Gearboxes



Industrial

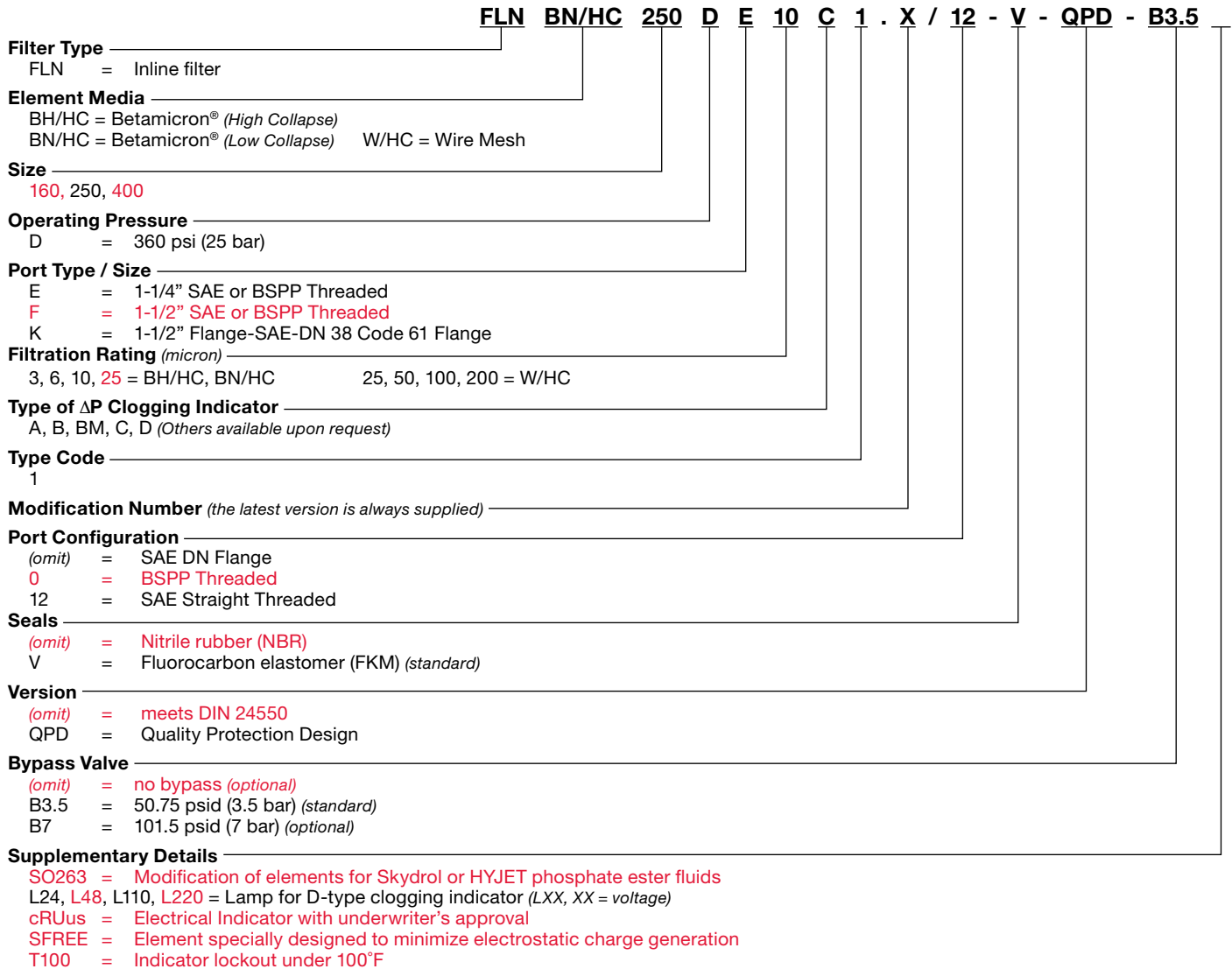


Power Generation

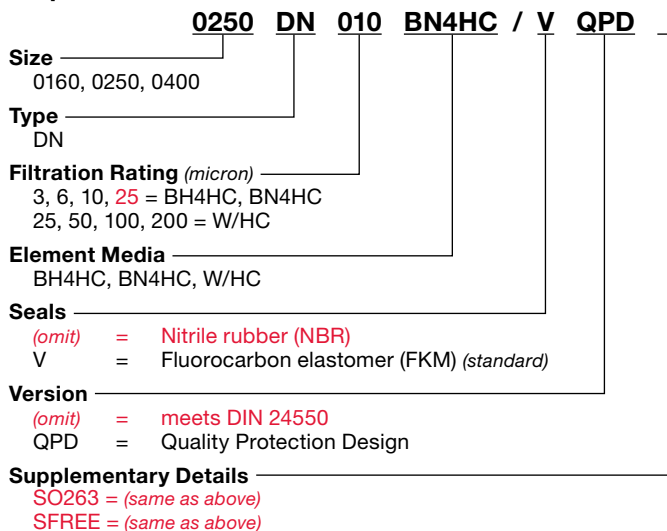


Pulp & Paper

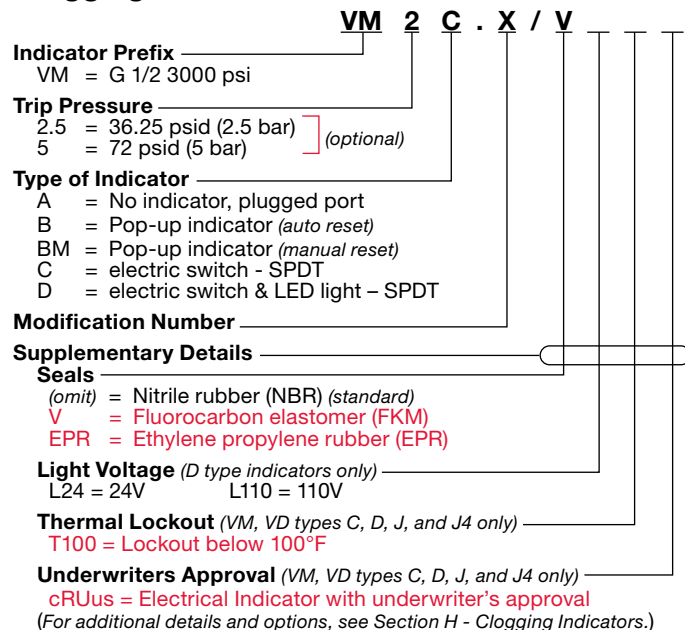
Model Code



Replacement Element Model Code



Clogging Indicator Model Code

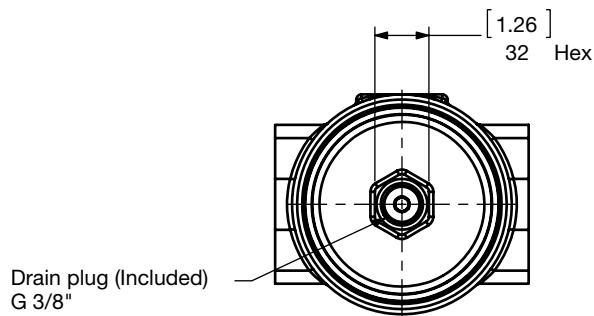
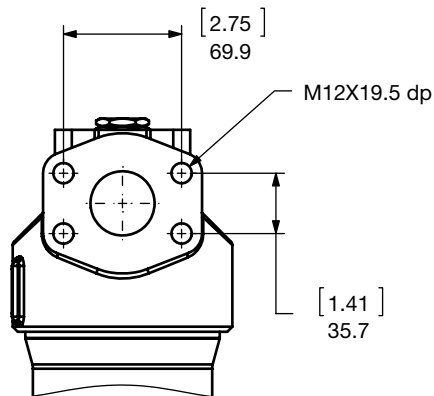
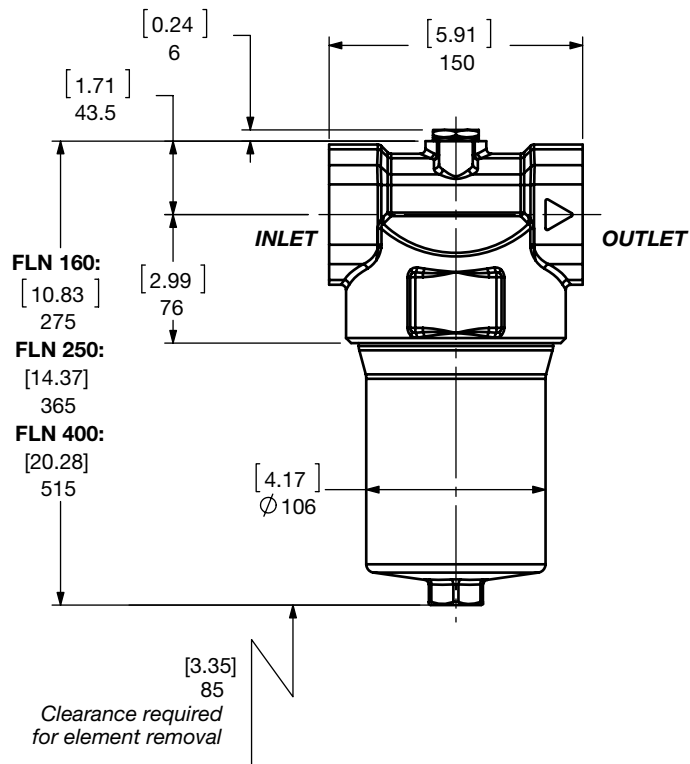
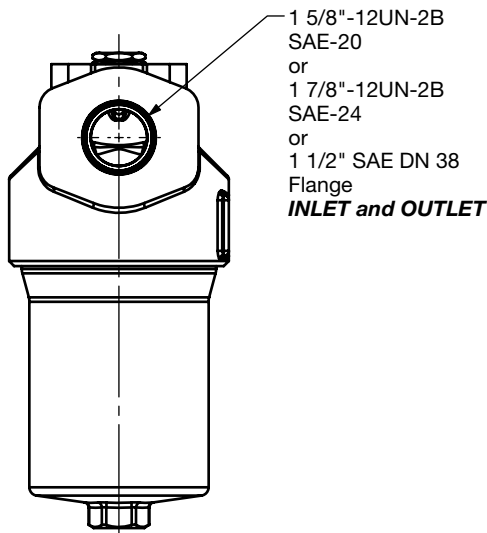
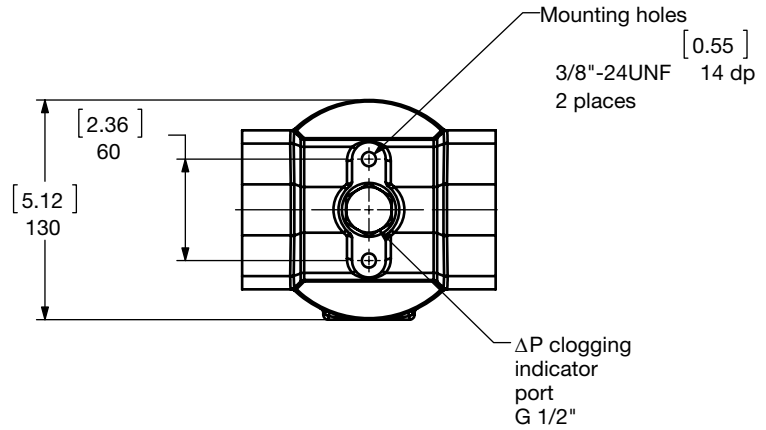


Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

LOW PRESSURE FILTERS

Dimensions

FLN 160 / 250 / 400



1 1/2" SAE DN 38 Flange

Size	160	250	400
Weight (lbs.)	9.5	10.9	13.1

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:

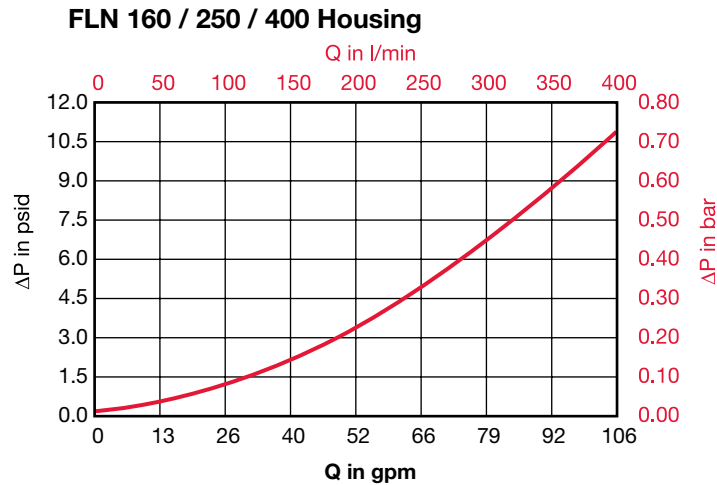
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

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 HYDAC Filter Assemblies" in Section B - Overview)



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)

BN4HC	...DN...BN4HC (Betamicron Low Collapse)			
Size	3 μm	6 μm	10 μm	25 μm
0160 DN XXX BN4HC	0.434	0.280	0.187	0.143
0250 DN XXX BN4HC	0.280	0.176	0.115	0.099
0400 DN XXX BN4HC	0.176	0.110	0.071	0.055

BH4HC	...DN...BH/HC (Betamicron High Collapse)			
Size	3 μm	6 μm	10 μm	25 μm
0160 DN XXX BH4HC	0.439	0.280	0.209	0.137
0250 DN XXX BH4HC	0.296	0.187	0.154	0.104
0400 DN XXX BH4HC	0.187	0.115	0.093	0.060

W/HC	...DN...W/HC (Betamicron Low Collapse)			
Size	25 μm	50 μm	100 μm	200 μm
0160 DN XXX W/HC	0.009	0.009	0.009	0.009
0250 DN XXX W/HC	0.006	0.006	0.006	0.006
0400 DN XXX W/HC	0.004	0.004	0.004	0.004

All Element K Factors in psi / gpm.