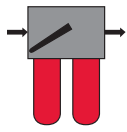


HIGH PRESSURE FILTERS

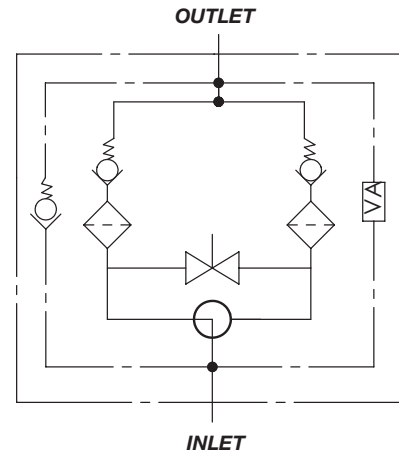
FMND Series

Inline Duplex Filters

3000 psi • up to 100 gpm



Hydraulic Symbol



Features

- The FMND filter consists of a ductile iron filter head with built-in changeover valve and three different lengths of screw-in filter bowls.
- The FMND filter can be supplied with or without bypass valve, (located in head assembly) but includes vent and drain screws, and also a connection for a differential pressure clogging indicator.
- Pressure equalization requirement is achieved by raising the changeover lever prior to switching it to the relevant filter side.
- Fatigue pressure rating = maximum allowable working pressure rating.
- Germanischer Lloyd (GL) approved
- 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

*Note - QPD design does not meet DIN 24550.

Applications



Agricultural



Automotive



Construction



Industrial



Power Generation



Railways



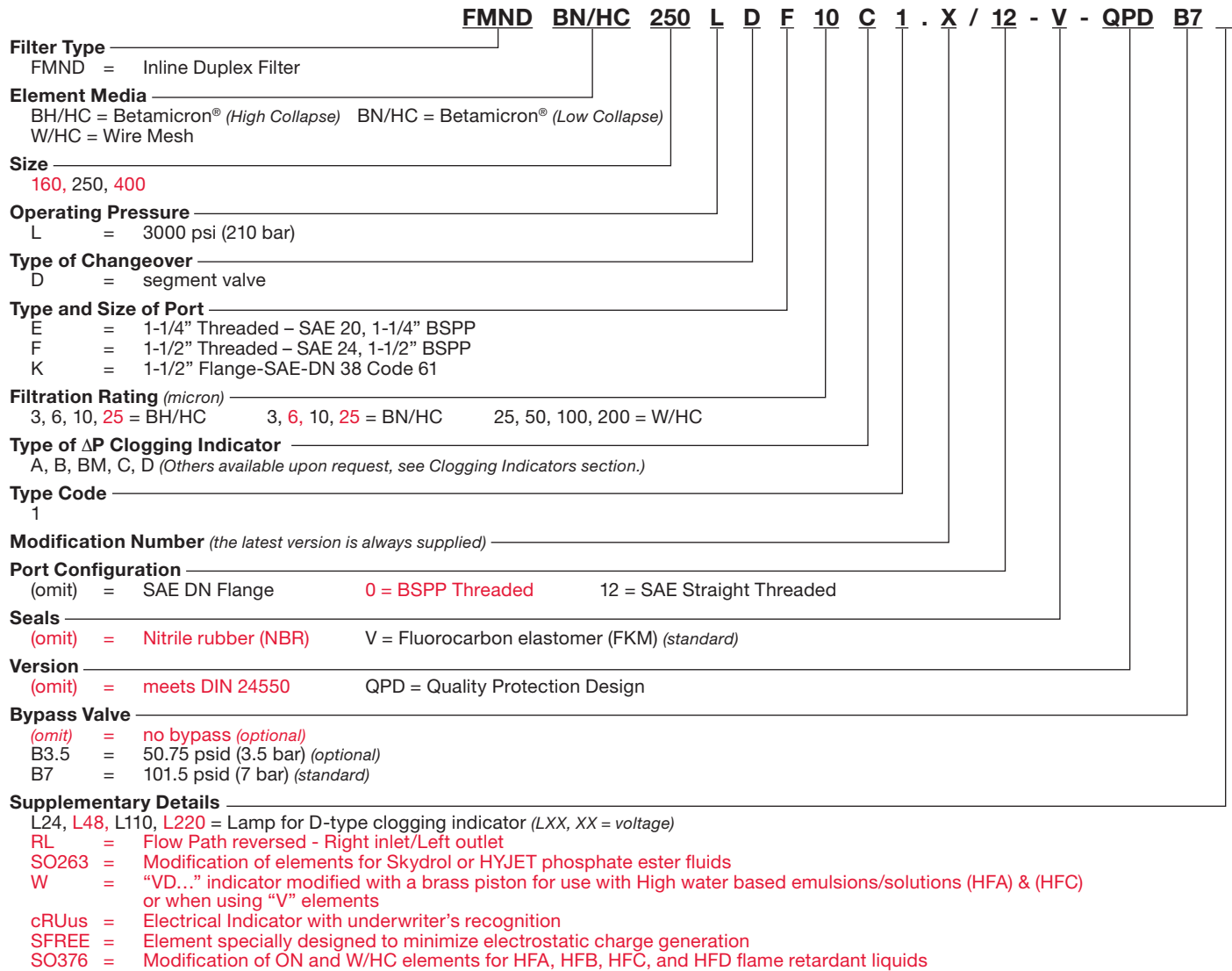
Steel / Heavy Industry

Technical Specifications

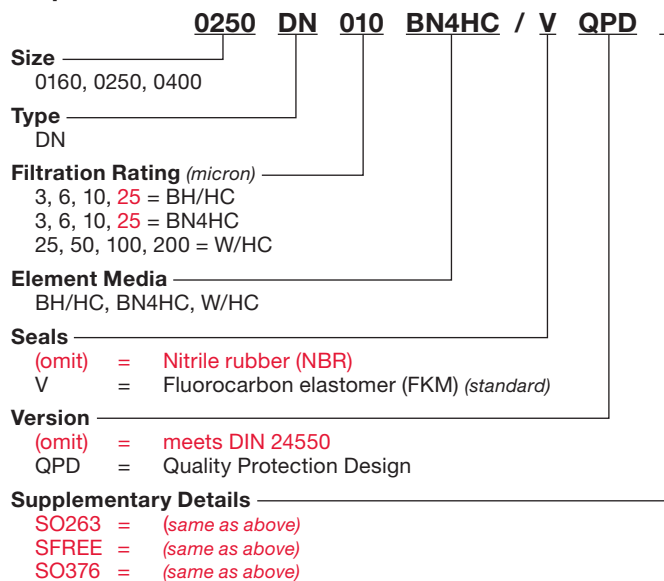
Mounting Method	4 Mounting holes
Port Connections	Inlet / Outlet 1-1/4" Threaded – SAE 20, 1-1/4" BSPP 1-1/2" Threaded – SAE 24, 1-1/2" BSPP 1-1/2" Flange-SAE-DN 38 Code 61
Flow Direction	Inlet: Side Outlet: Opposite Side
Construction Materials	Head Ductile iron Bowl Steel
Flow Capacity	160 42 gpm (160 lpm) 250 66 gpm (250 lpm) 400 100 gpm (400 lpm)
Housing Pressure Rating	Max. Allowable Working Pressure 3000 psi (207 bar) Fatigue Pressure 3000 psi (210 bar) @ 1 million cycles Burst Pressure 10,650 psi (735 bar)
Element Collapse Pressure Rating	BH4HC 3045 psid (210 bar) BN4HC, W/HC 290 psid (20 bar)
Fluid Temperature Range	14°F to 212°F (-10°C to 100°C) Consult HYDAC for applications operating below 14°F (-10°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	$\Delta P = 36.25$ psid (2.5 bar) -10% (optional) $\Delta P = 50.75$ psid (3.5 bar) +10% (optional) $\Delta P = 72$ psid (5 bar) -10% (standard) $\Delta P = 116$ psid (8 bar) -10% (optional) [Used with non-bypass]
Bypass Valve Cracking Pressure	$\Delta P = 102$ psid (7 bar) +10%

HIGH PRESSURE FILTERS

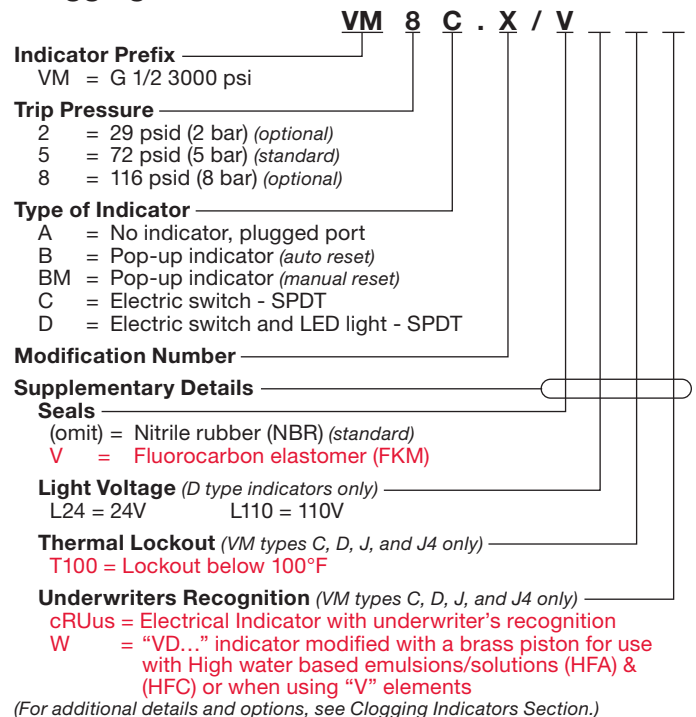
Model Code



Replacement Element Model Code



Clogging Indicator Model Code



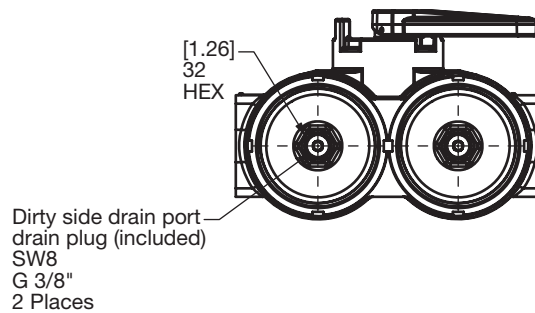
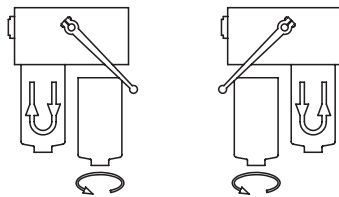
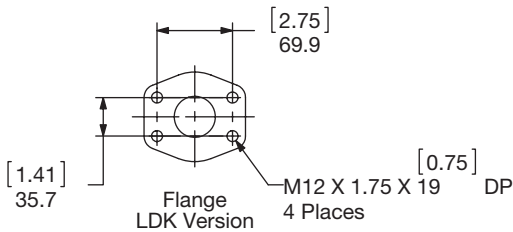
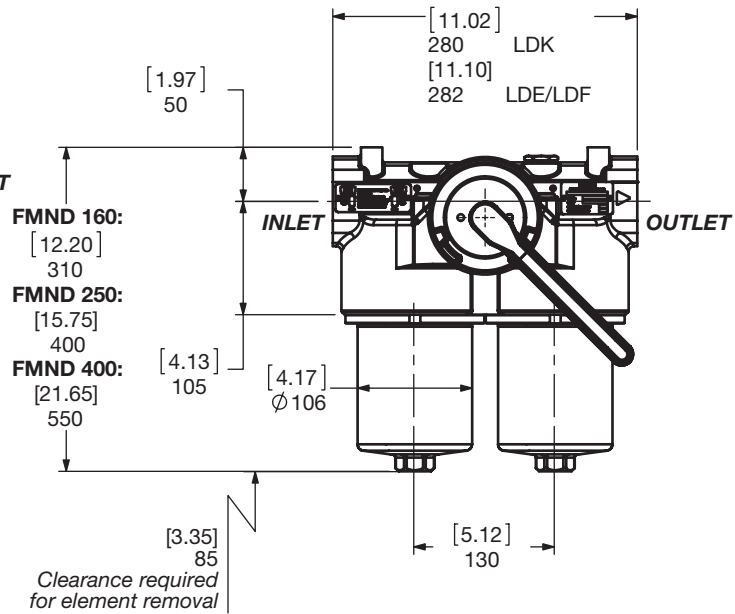
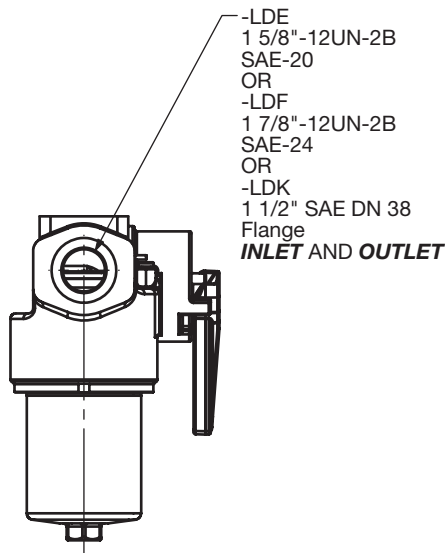
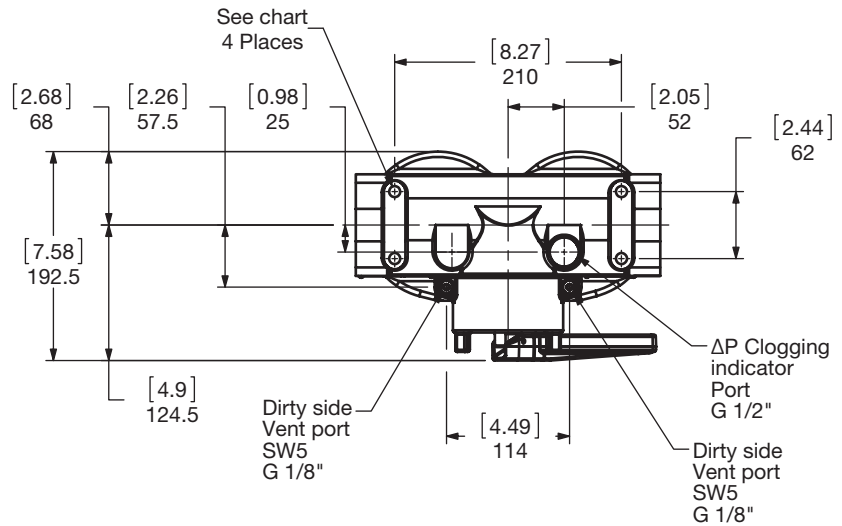
Model Codes Containing RED are non-stock items - Minimum quantities may apply - Contact HYDAC for information and availability

HIGH PRESSURE FILTERS

Dimensions

FMND 160/250/400

Model	Mounting Hole
FMND160-400LDE	M12X1.75 x 19mm Deep
FMND160-400LDE/12	3/8-24UNF x 14mm Deep
FMND160-400LDF	M12X1.75 x 19mm Deep
FMND160-400LDF/12	3/8-24UNF x 14mm Deep
FMND160-400LDK	M12X1.75 x 19mm Deep



Before changing the element, relieve pressure in the filter housing.

Size	160	250	400
Weight (lbs.)	52.7	59.8	71.0

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:

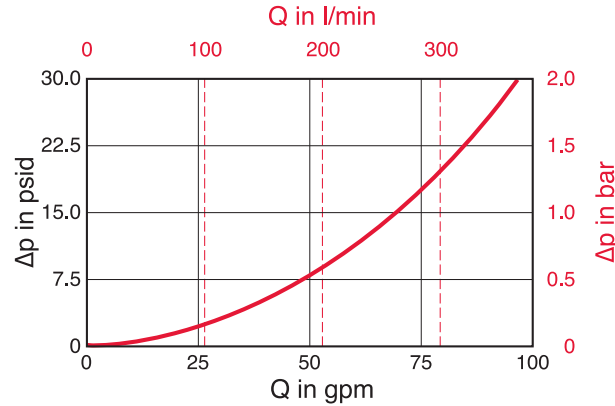
Assembly ΔP = Housing ΔP + Element ΔP

Housing Curve:

Pressure loss through housing is as follows:

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

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

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

(From Tables Below)

Betamicon	...DN...BN/HC Elements (Low Collapse)			
	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

Wire Mesh	...DN...W/HC Elements			
	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

Betamicon	...DN...BH/HC Elements (High Collapse)			
	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

All Element K Factors in psi / gpm.

FMND 160/250/400 LDK

