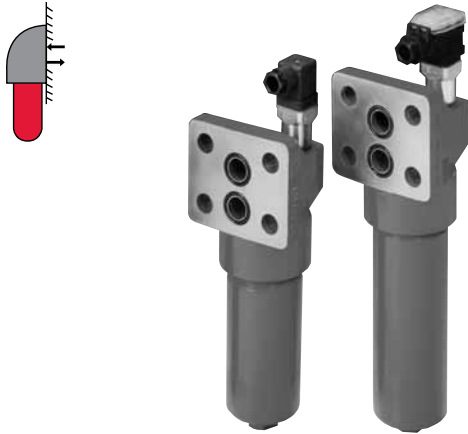


DF...QE Series Manifold Mount Filters

4500 psi • up to 180 gpm



Features

- The DF...QE Filters have a filter head of ductile iron and a screw-in bowl of cold-formed steel for high fatigue strength.
- The filter housings are designed to withstand pressure surges as well as high static pressure loads.
- The screw-in bowl allows the filter element to be easily removed for replacement or cleaning.
- Visual (pop-up), electrical, electrical/visual (lamp), or electronic differential type clogging indicators can be installed.
- DF...QE filters are available with or without a bypass valve so either high or low collapse pressure elements may be used.
- Fatigue pressure rating equals maximum allowable working pressure rating.

Applications



Industrial

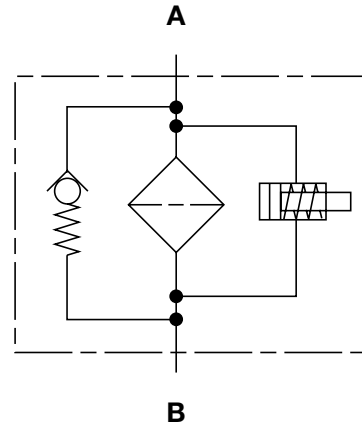


Railways



Steel / Heavy Industry

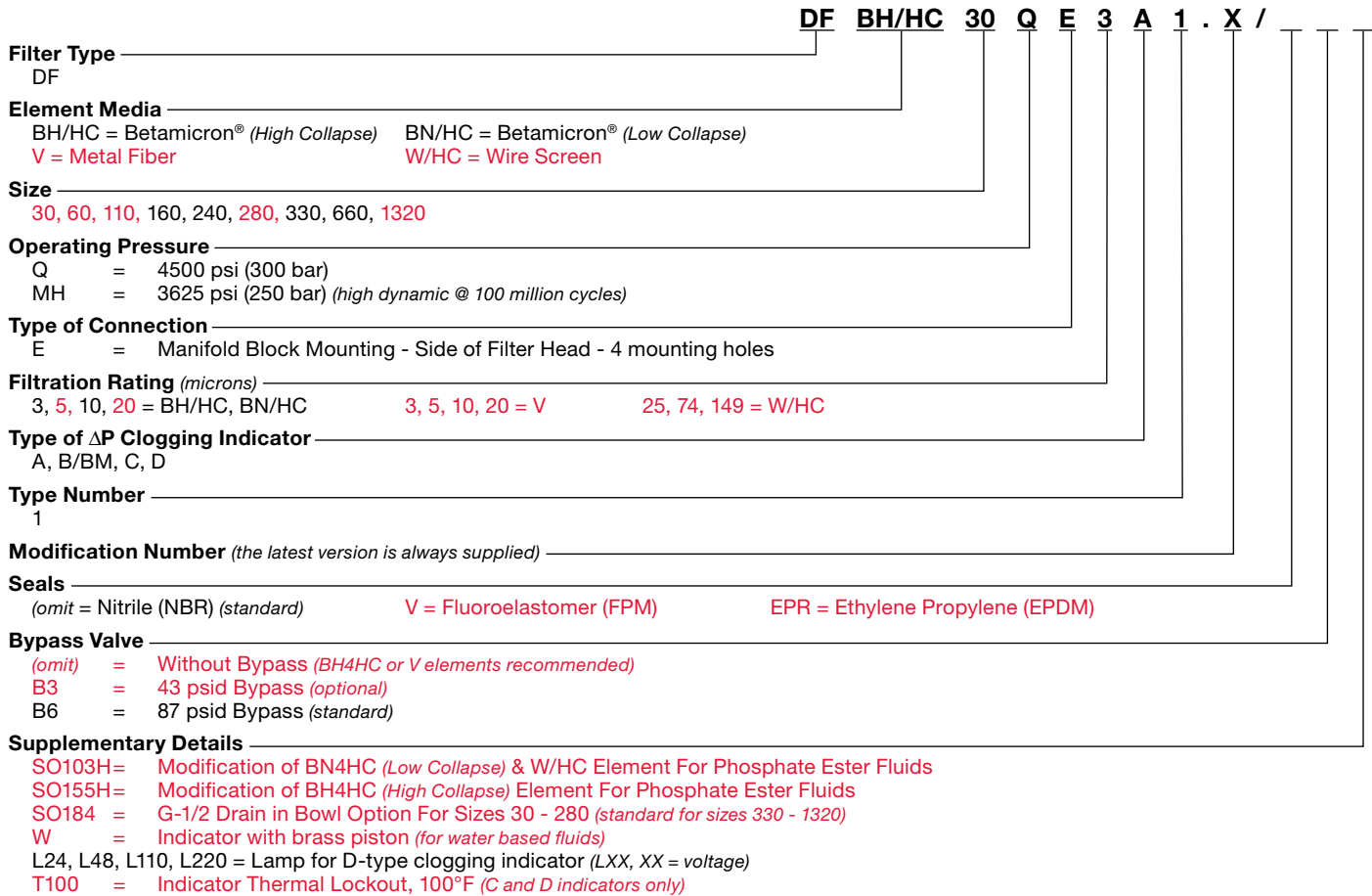
Hydraulic Symbol



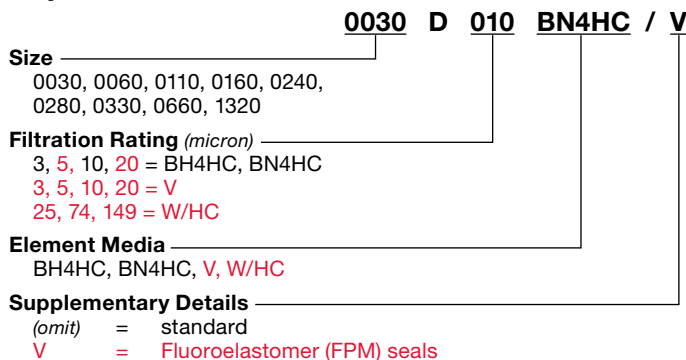
Technical Details

Mounting Method	4 mounting holes (<i>manifold mount</i>)	
Port Connection	Diameters	
30	0.551" (14mm)	
60/110	0.787" (20mm)	
160/240/280	1.260" (32mm)	
330/660/1320	1.181" (30mm)	
Flow Direction	Inlet: Side	Outlet: Side
Construction Materials		
Head	Ductile iron	
Bowl	Steel	
Housing (1320)	Steel	
Cap (1320)	Ductile iron	
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	87 gpm (330 lpm)	
660	174 gpm (660 lpm)	
1320	180 gpm (1320 lpm)	
Housing Pressure Rating	QE	MHE
Max. Operating Pressure	4500 psi (315 bar)	3625 psi (250 bar)
Proof Pressure	6750 psi (472 bar)	5438 psi (375 bar)
Fatigue Pressure	4500 psi (315 bar)	3625 psi (250 bar)
	@ 1 mil. cycles	@ 100 mil. cycles
Burst Pressure	Contact HYDAC	
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		
ΔP = 29 psid (2 bar) -10% (<i>optional</i>)		
ΔP = 72 psid (5 bar) -10% (<i>standard</i>)		
Bypass Valve Cracking Pressure		
ΔP = 43 psid (3 bar) +10% (<i>optional</i>)		
ΔP = 87 psid (6 bar) +10% (<i>standard</i>)		

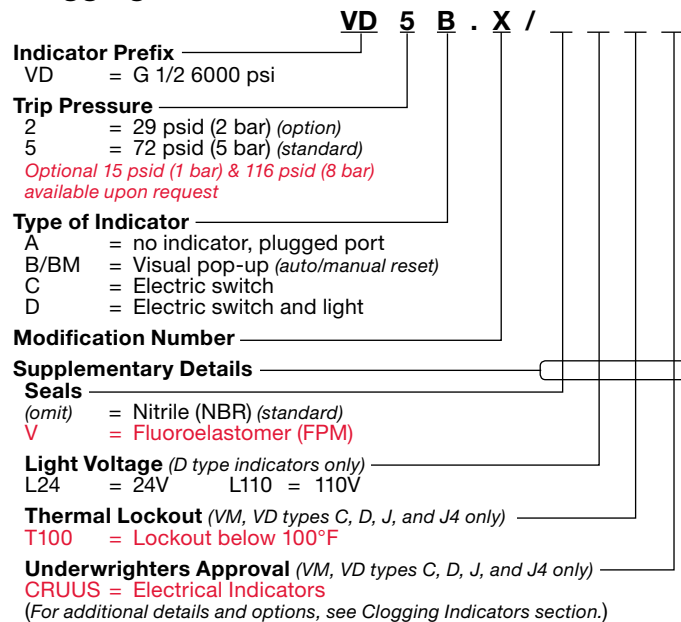
Model Code



Replacement Element Model Code



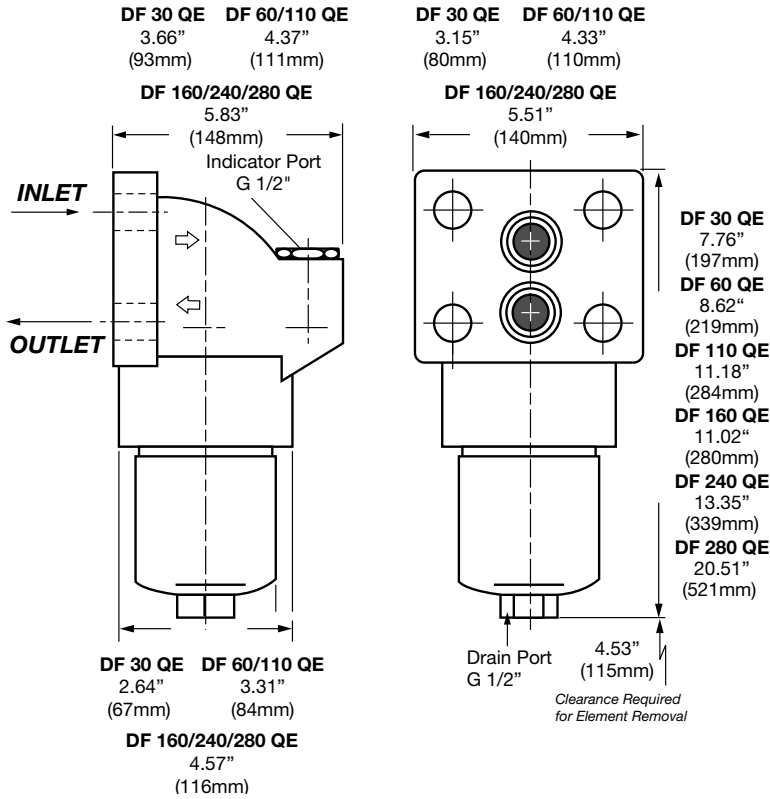
Clogging Indicator Model Code



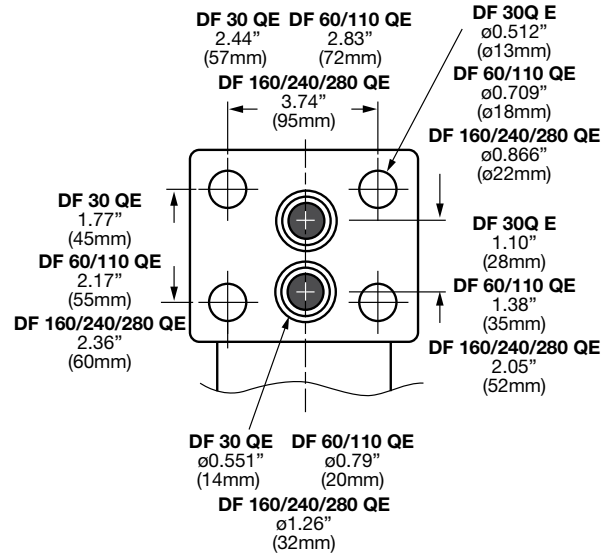
Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

Dimensions

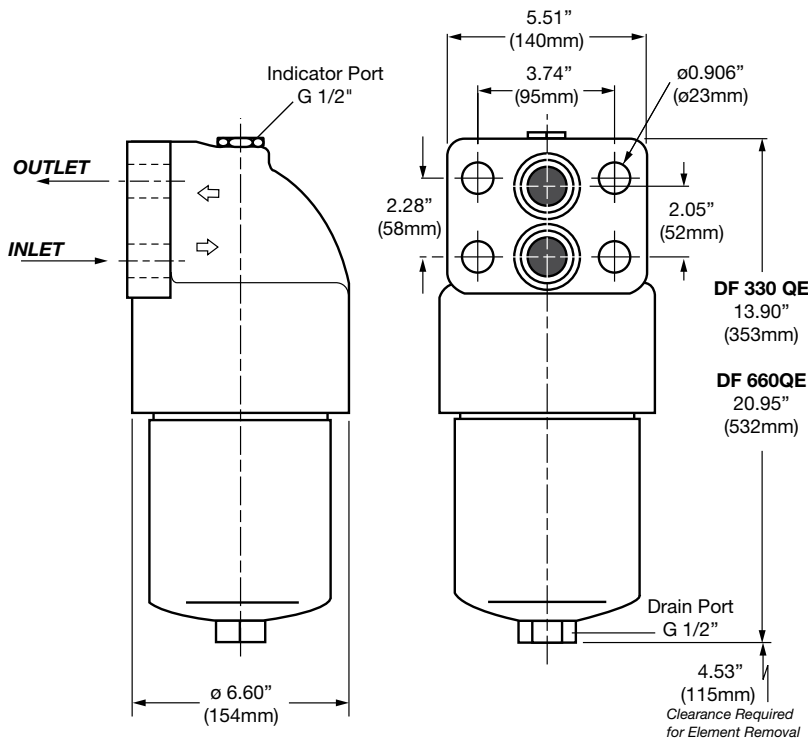
DF 30 – 280 QE



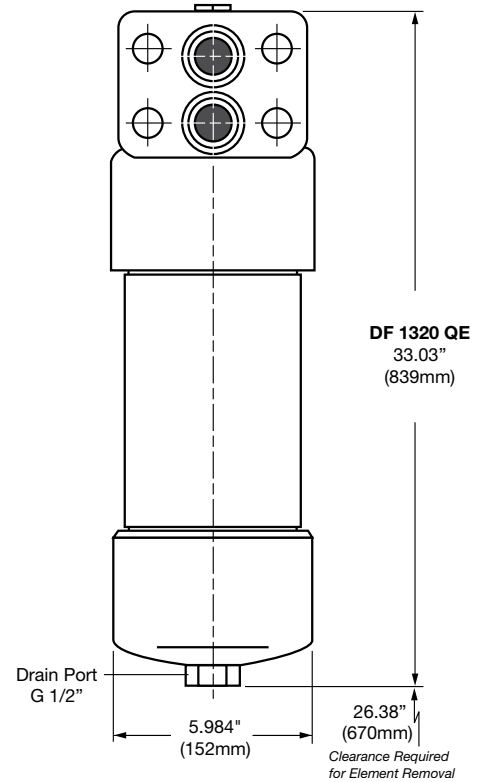
Mounting Pattern



DF 330 – 660 QE



DF 1320 QE



Size	30	60	110	160	240	280	330	660	1320
Weight (lbs.)	6.0	10.8	12.8	20.0	22.7	31.9	47.8	63.2	105.8

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:

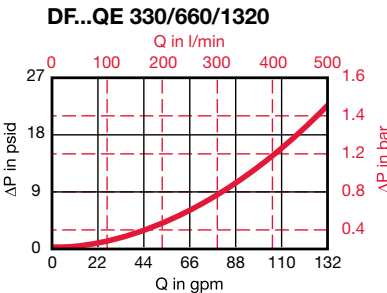
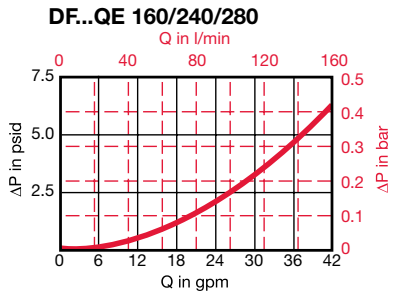
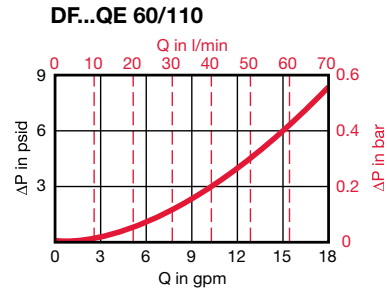
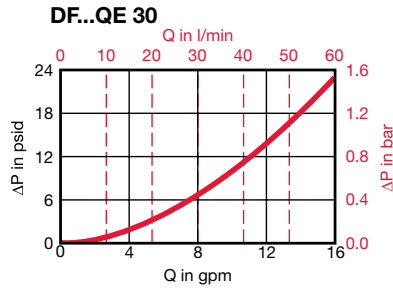
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

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

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

(From Tables Below)

Size	...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
0140	0.701	0.450	0.261	0.157
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
1320	0.068	0.048	0.030	0.021

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
1320	0.089	0.054	0.031	0.024

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
1320	0.032	0.026	0.018	0.012

Size	...D...W/HC Elements
	25, 50, 74, 100, 149, 200 μm
0030	0.185
0060	0.092
0110	0.050
0160	0.035
0240	0.023
0280	0.020
0330	0.020
0660	0.008
0990	0.006

All Element K Factors in psi / gpm.