

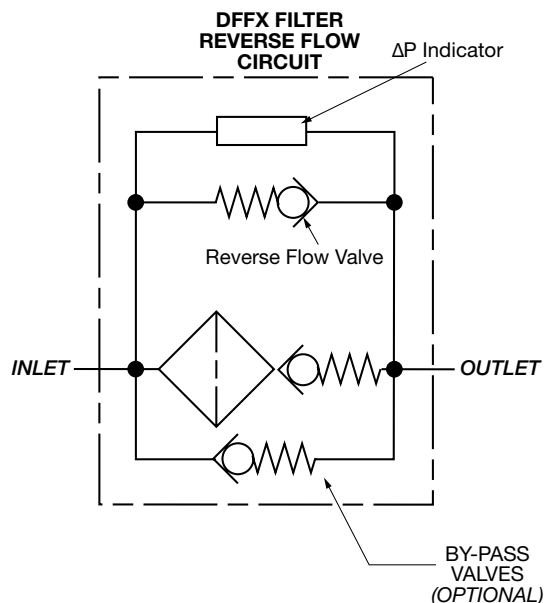
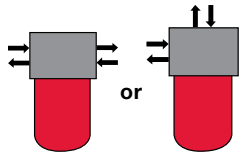
SPECIAL ORDER FILTERS - HIGH PRESSURE

DFFX Series

Reverse Flow Differential Pressure Optimized Filters

6090 psi • up to 160 gpm

Hydraulic Symbol



Features

- DFFX Reverse Flow models filter fluid in the forward direction and bypass the filter element when the flow direction is reversed.
- O-ring seals are used to provide positive, reliable sealing. Choice of O-ring materials provide compatibility with petroleum oils, synthetic fluids, water-glycols, oil/water emulsions, and high water based fluids.
- Screw-in bowl/lid mounted below the filter head requires minimal clearance to remove the element for replacement; contaminated fluid cannot be washed downstream when element is serviced.
- Clogging indicators have no external dynamic seal. This results in high reliability due to magnetic actuation which eliminates a leak point.
- A poppet-type bypass valve (optional) located in the filter head provides positive sealing during normal operation and fast opening during cold starts and flow surges.

Technical Specifications

Mounting Method	4 mounting holes
Port Connection	DFFX 330/660/1320 2" SAE Flange Code 62
Flow Direction	Inlet: Side Outlet: Side or Top
Construction Materials	Head Ductile iron Single piece bowl "1.X" Bowl Steel Two piece bowl "2.X" Housing Steel Lid/Cap Steel
Flow Capacity	330 80 gpm (303 lpm) 660/1320 100 gpm (379 lpm)/160 gpm (606 lpm)
Housing Pressure Rating	Max. Allowable Working Pressure 6090 psi (420 bar) Fatigue Pressure Contact HYDAC Office Burst Pressure Contact HYDAC Office
Element Collapse Pressure Rating	BH4HC, V 3045 psid (210 bar) ON, 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	ΔP = 29 psid (2 bar) -10% (optional) ΔP = 72 psid (5 bar) -10% (standard) ΔP = 116 psid (8 bar) -10% (optional)
Bypass Valve Cracking Pressure	ΔP = 43 psid (3 bar) +10% (optional) ΔP = 87 psid (6 bar) +10% (standard) Non Bypass Available

Applications



Agricultural



Automotive



Construction



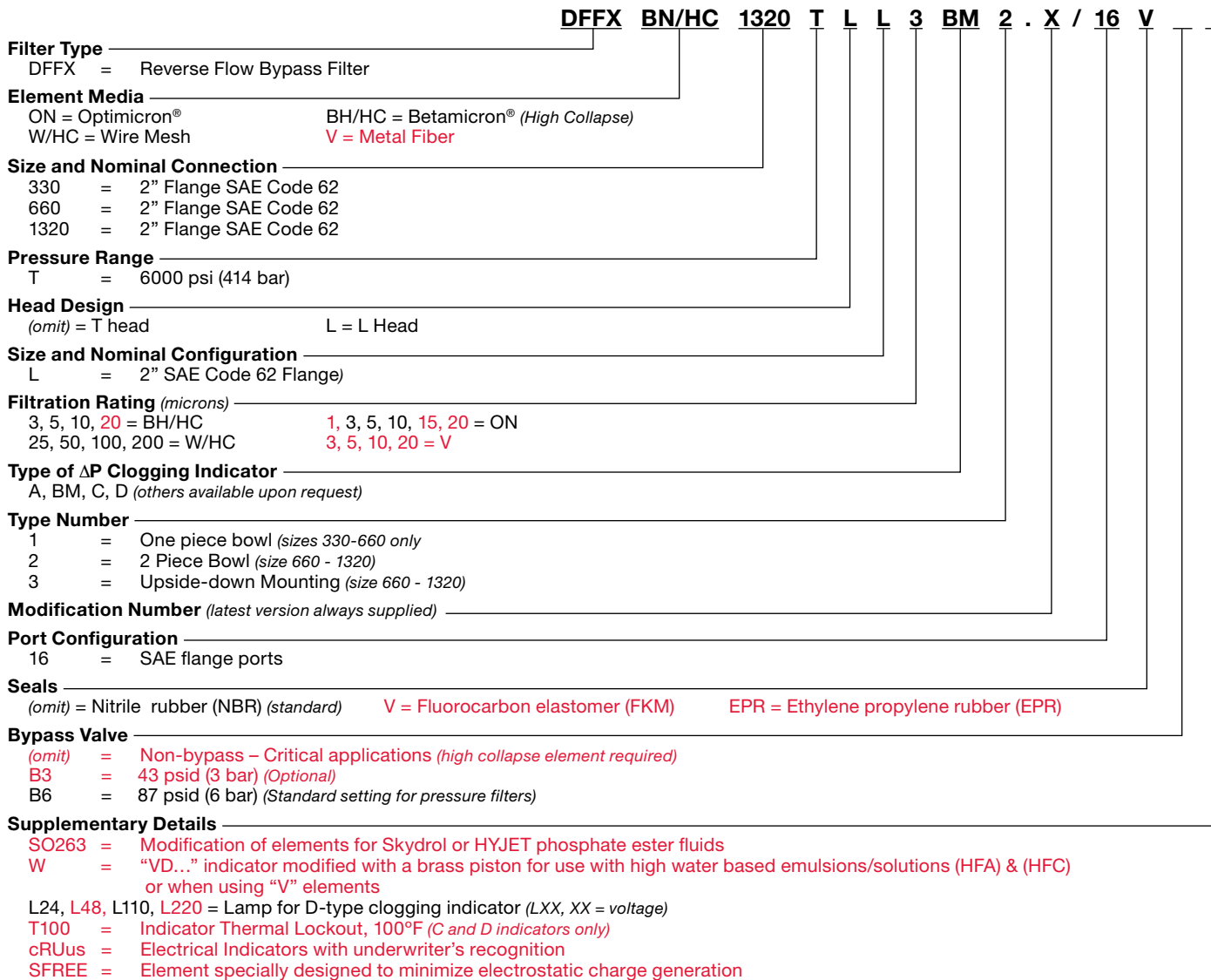
Industrial



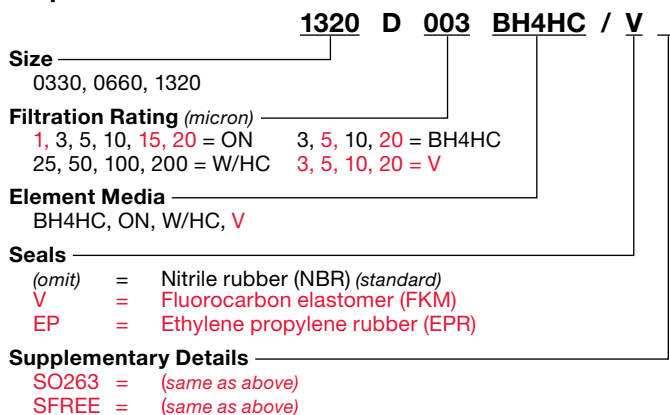
Railways

SPECIAL ORDER FILTERS - HIGH PRESSURE

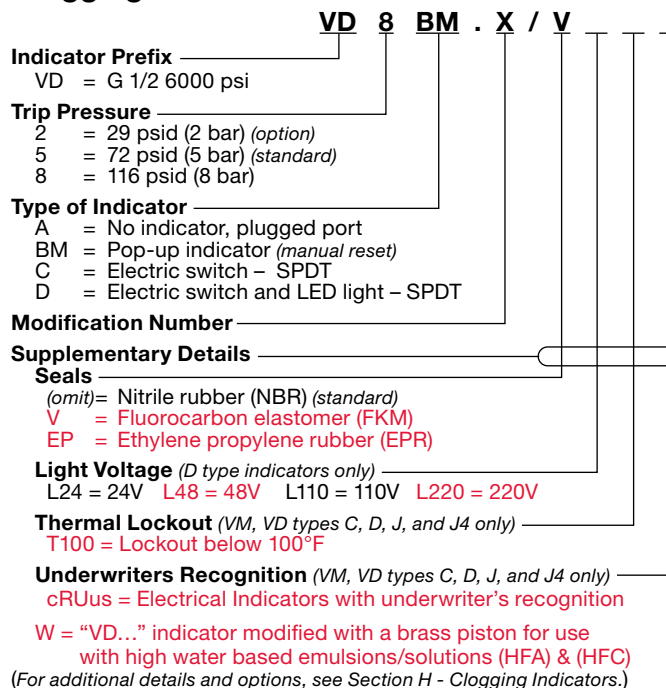
Model Code



Replacement Element Model Code



Clogging Indicator Model Code

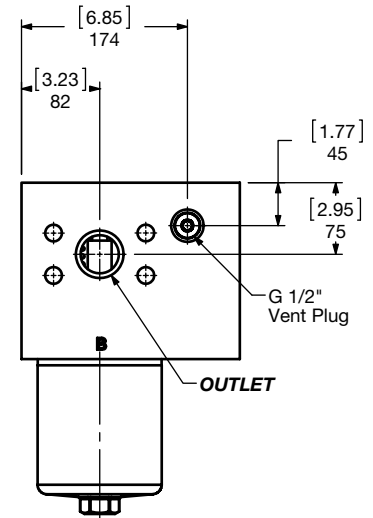
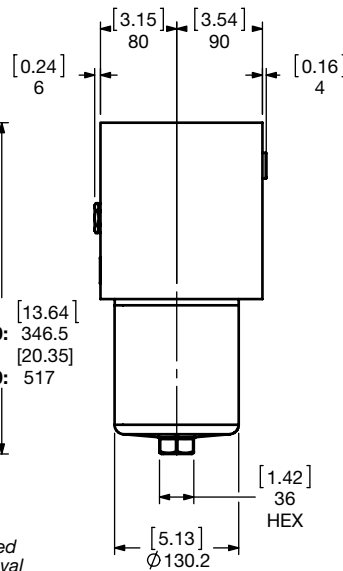
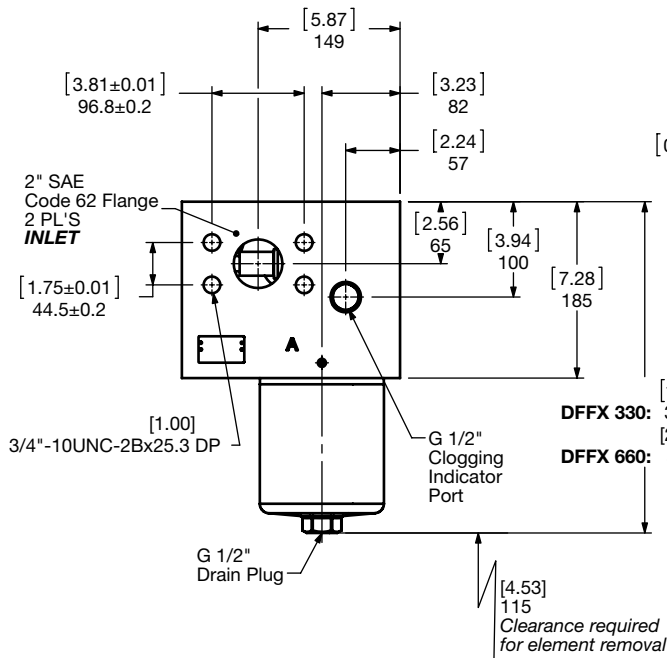
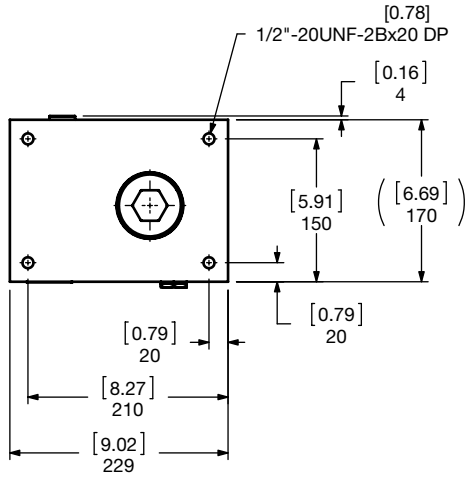


Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability

SPECIAL ORDER FILTERS - HIGH PRESSURE

Dimensions

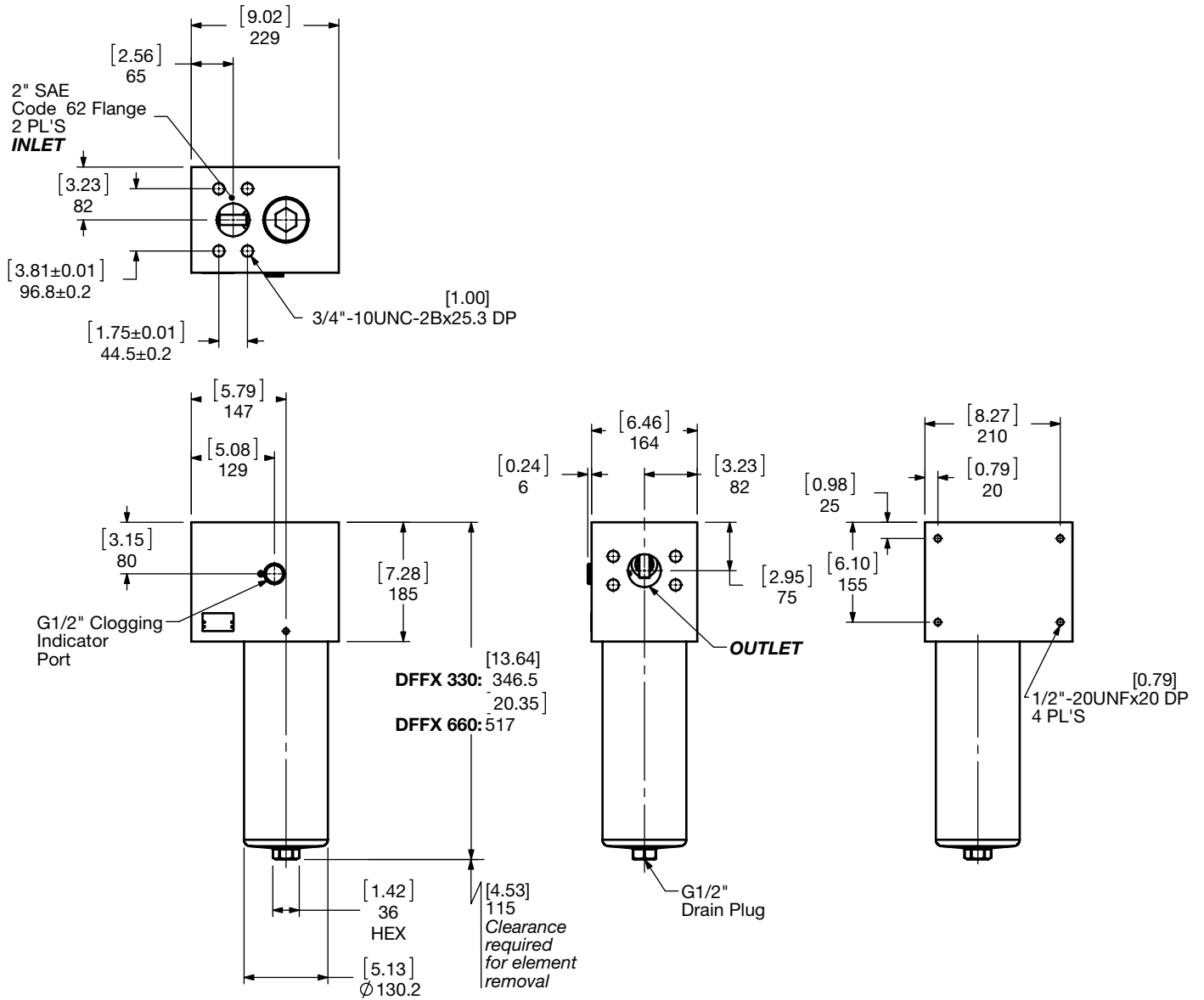
DFFX 330 / 660 TL 1.X Version



Size	330 TL1.0v	660 TL1.0v
Weight (lbs.)	109.2	124.8

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.

Dimensions DFFX 330 / 660 TLL 1.X Version



Size	330 TLL1.0v	660 TLL1.0v
Weight (lbs.)	109.2	124.8

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.

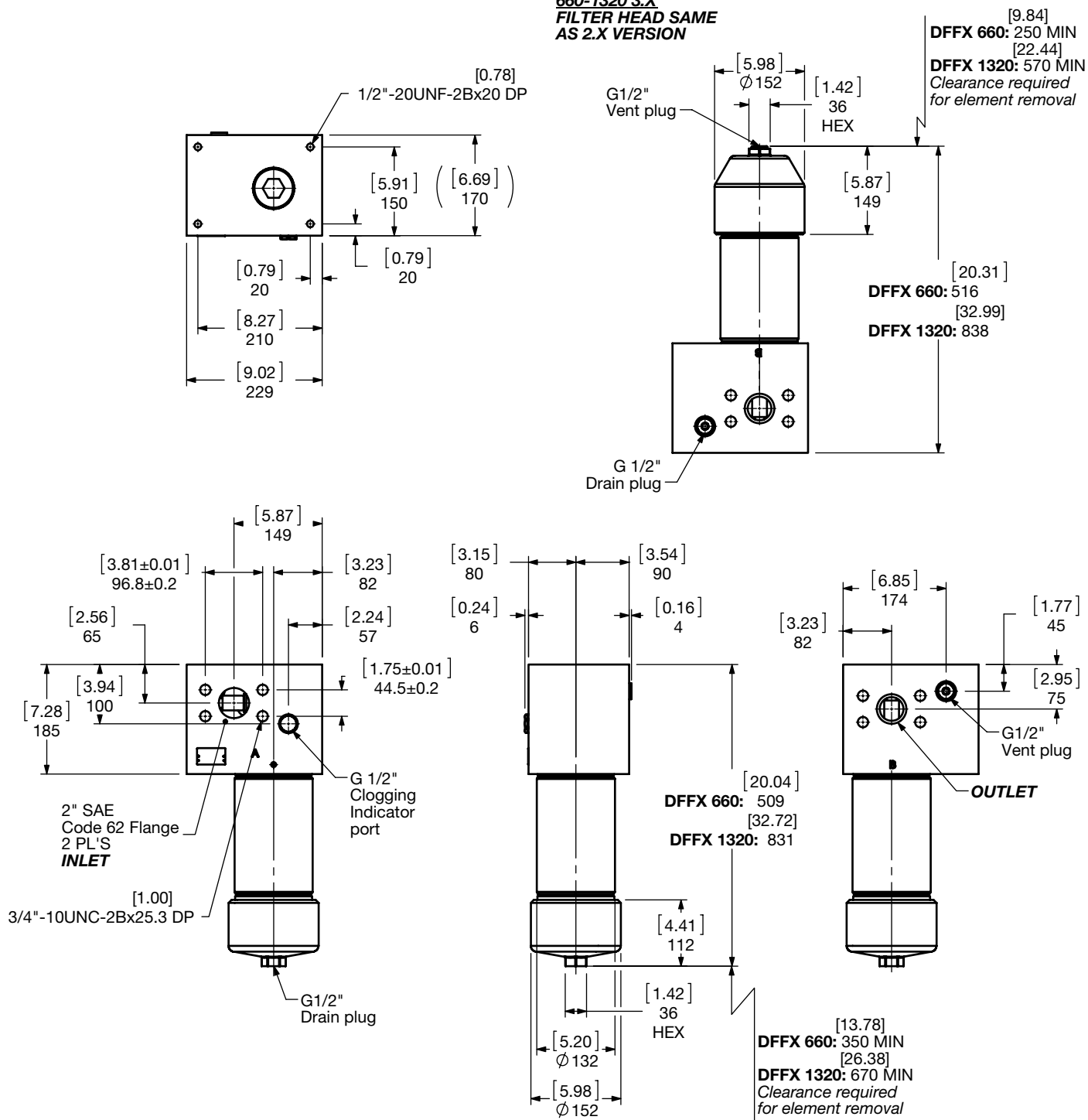
SPECIAL ORDER FILTERS - HIGH PRESSURE

Dimensions

DFFX 660 / 1320 TL 2.X & 3.X Version

660 / 1320 2.X Version

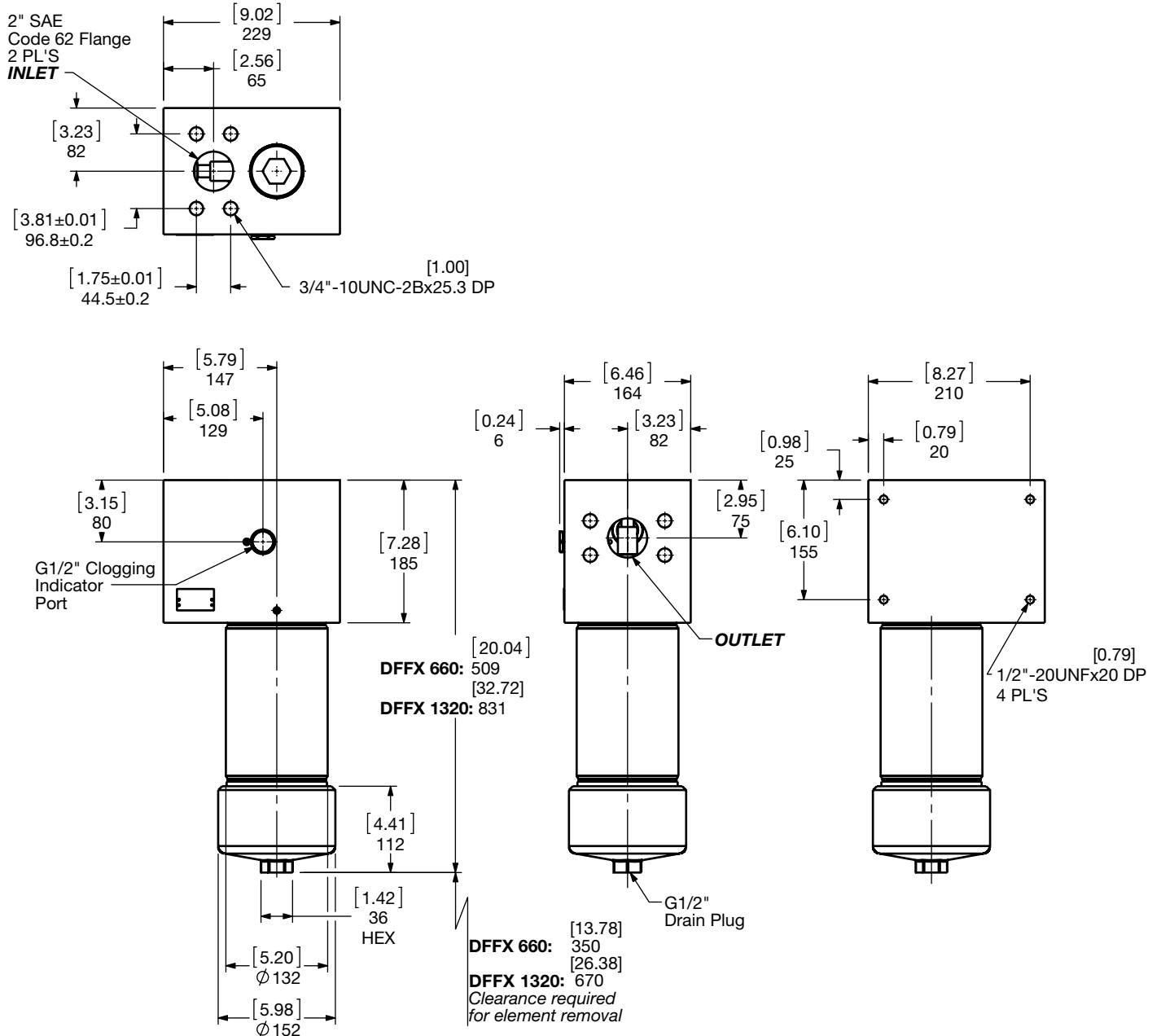
660-1320 3.X FILTER HEAD SAME AS 2.X VERSION



Size	660 TL2.0 3.0v	1320 TL2.0 3.0v
Weight (lbs.)	124.8	167.8

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.

Dimensions DFFX 660 / 1320 TLL 2.X Version



Size	660 TLL2.0v	1320 TLL2.0v
Weight (lbs.)	124.8	167.8

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.

SPECIAL ORDER FILTERS - HIGH PRESSURE

Sizing Information

Total pressure loss through the filter is as follows:

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

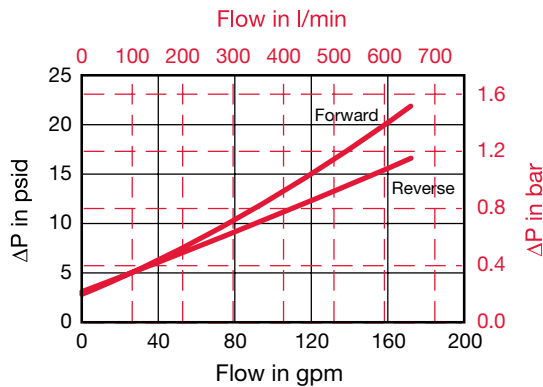
Housing Curve:

Pressure loss through housing is as follows:

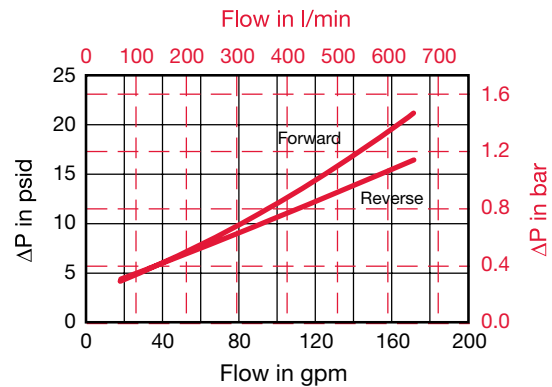
$$\text{Housing } \Delta P = \text{Housing Curve } \Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Adjustments must be made for viscosity & specific gravity of the fluid to be used! (see "Sizing HYDAC Filter Assemblies" in Section B - Overview)

DFFX 330 / 660 / 1320 TL Housing



DFFX 330 / 660 / 1320 TLL Housing



Element K Factors

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

(From Tables Below)

Betamicon	...D...BH4HC Elements (High Collapse)				
	Size	3 μm	5 μm	10 μm	20 μm
0330 D XXX BH4HC		0.423	0.247	0.154	0.110
0660 D XXX BH4HC		0.181	0.104	0.055	0.049
1320 D XXX BH4HC		0.088	0.055	0.033	0.022

Optimicon	...D...ON Elements						
	Size	1 μm	3 μm	5 μm	10 μm	15 μm	20 μm
0330 D XXX ON		0.452	0.23	0.185	0.135	0.085	0.067
0660 D XXX ON		0.207	0.106	0.086	0.051	0.039	0.031
1320 D XXX ON		0.102	0.053	0.042	0.025	0.019	0.015

Wire Mesh	...D...W/HC Elements	
	Size	25, 50, 100, 200 μm
0330 D XXX W/HC		0.008
0660 D XXX W/HC		0.004
1320 D XXX W/HC		0.002

Metal Fiber	...D...V Elements (High Collapse)				
	Size	3 μm	5 μm	10 μm	20 μm
0330 D XXX V		0.121	0.097	0.065	0.043
0660 D XXX V		0.063	0.050	0.034	0.021
1320 D XXX V		0.032	0.026	0.018	0.012

All Element K Factors in psi / gpm.

