

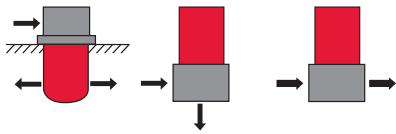
LOW PRESSURE FILTERS

NF Series

In-Tank / Inline Filters

360 psi • up to 450 gpm (4" piping)

up to 1350 gpm (6" piping)



1.0 Version



2.0 Version



1350 / 2650

Features

- NF Filters have an extremely large filtration area and flow capacity of 450 gpm (4" pipe size limitation)
- NF Filters can be configured for in-tank or in-line applications
- Vent and drain ports are standard
- Aluminum alloy is water tolerant - anodizing is not required for high water based fluids (HWBF)
- Screw-on lid provides easy access to filter element for replacement
- Reusable contamination basket prevents re-entry of retained contaminants into the reservoir during element replacement (1.0 Version only)
- Filters can be fitted with clogging indicators to monitor the contamination level of the element
- Flange connection bolts included for all SAE-DIN flange ports

Note: This filter is configured with anR.... type (return/low pressure) element, so if the filter requires a bypass, the bypass is located in the closed end cap of the cartridge element.

Applications



Agricultural



Gearboxes



Industrial



Power Generation



Pulp & Paper

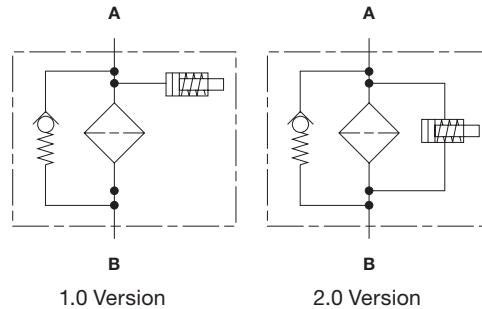


Shipbuilding



Steel / Heavy Industry

Hydraulic Symbol



1.0 Version

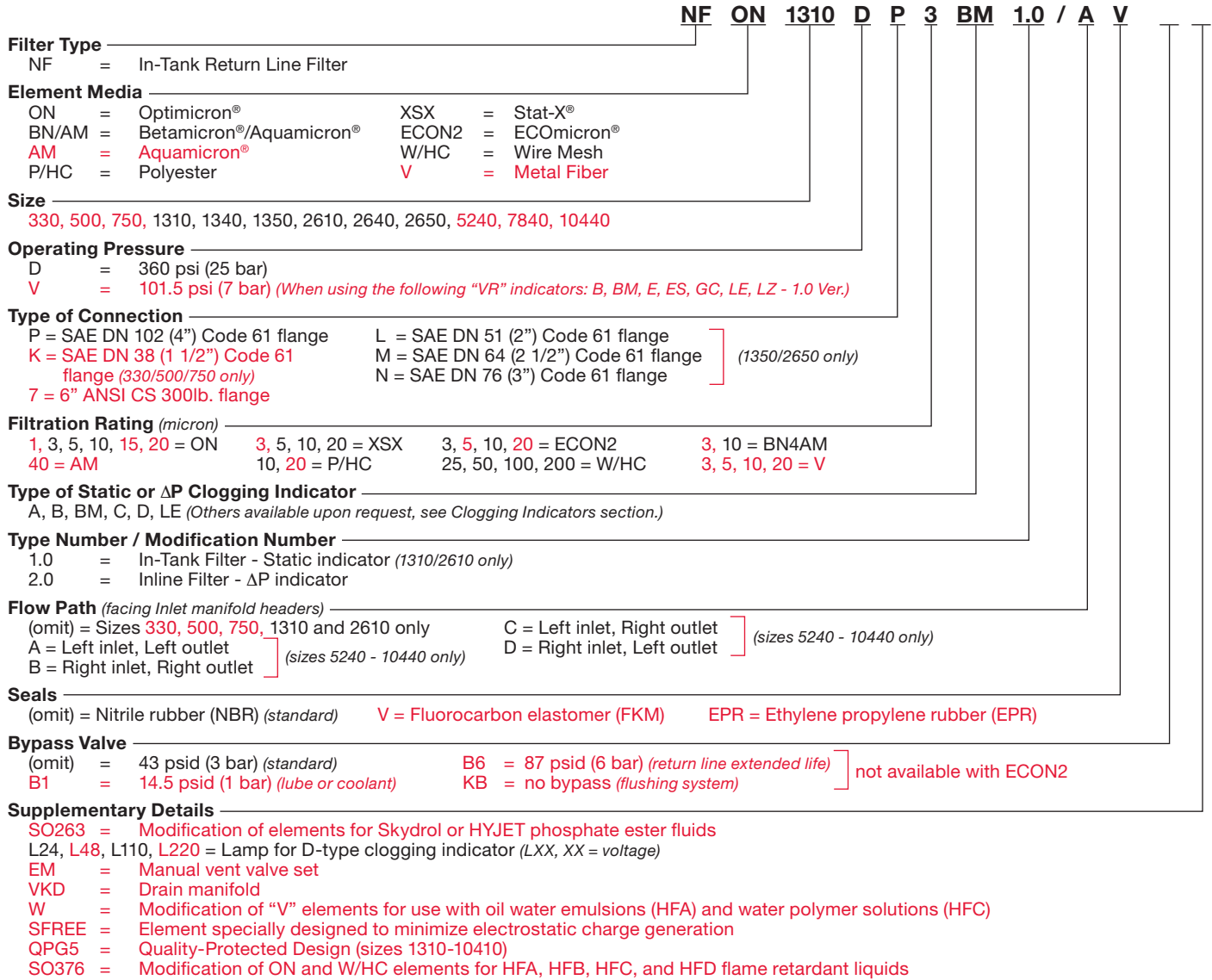
2.0 Version

Technical Specifications

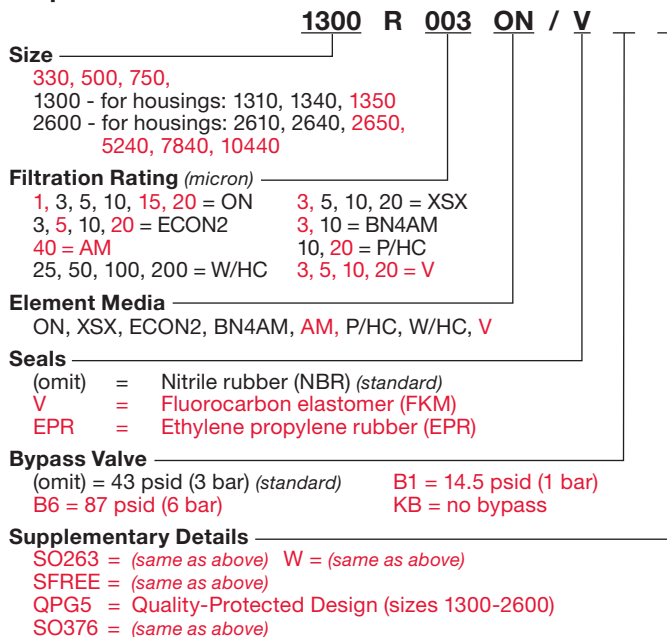
Mounting Method	See drawings	
Port Connection	330 / 500 / 750 SAE DN 38 (1 1/2") Code 61	
	1310 / 2610 4" SAE DN 102 Flange Code 61	
	1340 / 2640 (with M16 bolts included) - other options available	
	1350 / 2650 SAE DN 51 (2") Code 61	
	SAE DN (2 1/2") Code 61	
	SAE DN 76 (3") Code 61	
Flow Direction	1.0 version Inlet: Side	Outlet: Bottom
	2.0 version Inlet: Side	Outlet: Bottom
	1350 / 2650 Inlet: Side	Outlet: Side
Construction Materials	Head, Housing, Lid Aluminum	
	Elbows, Manifolds Ductile Iron	
Flow Capacity	4" Headers	
	330 80 gpm (303 lpm)	
	500 132 gpm (500 lpm)	
	750 200 gpm (757 lpm)	
	1310, 1340, 1350 343 gpm (1300 lpm)	
	2610, 2640, 2650, 5240, 7840, 10440 450 gpm (1700 lpm)	
	6" Headers	
	5210..D7/D8 900 gpm (3407 lpm)	
	7810.. D7/D8 1350 gpm (5110 lpm)	
	10410.. D7/D8 1350 gpm (5110 lpm)	
Housing Pressure Rating	Max. Allowable Working Pressure* 360 psi (25 bar)	
	Fatigue Pressure 360 psi (25 bar)	
	Burst Pressure 1754 psi (121 bar)	
Element Collapse Pressure Rating	ON, W/HC 290 psid (20 bar)	
	ECON2, BN4AM, P/HC, AM 145 psid (10 bar)	
	V 435 psid (30 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 = 29 psid (2 bar) -10% 1.0 - Static	
	ΔP = 72 psid (5 bar) -10% 2.0 - Differential	
Bypass Valve Cracking Pressure	ΔP = 14.5 psid (1 bar) +10%	
	ΔP = 43 psid (3 bar) +10% (standard)	
	ΔP = 87 psid (6 bar) +10%	

*Note: All NF...1.0 Filters MAWP reduce to 7 bar (101.5 psi) when using the following "VMF" and "VR" indicators: B, BM, E, ES, GC, LE, LZ.

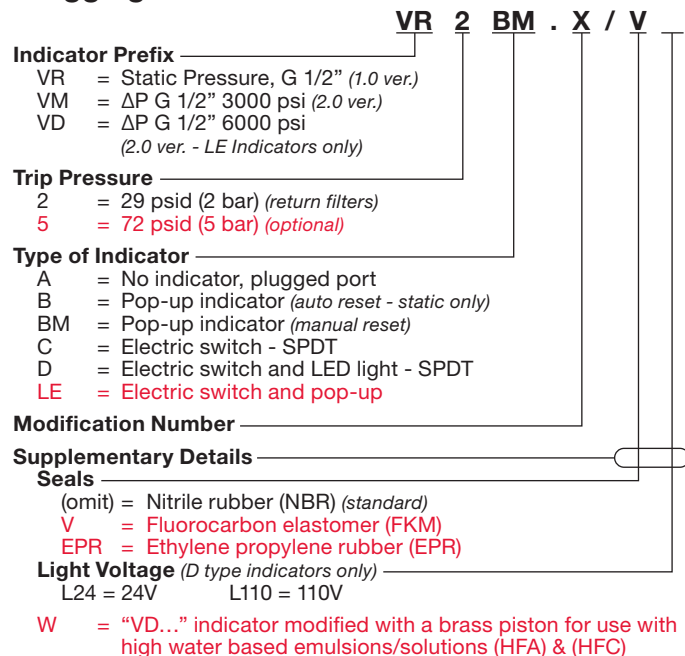
Model Code



Replacement Element Model Code



Clogging Indicator Model Code



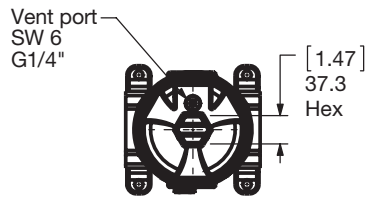
(For additional details and options, see Clogging Indicators Section.)

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

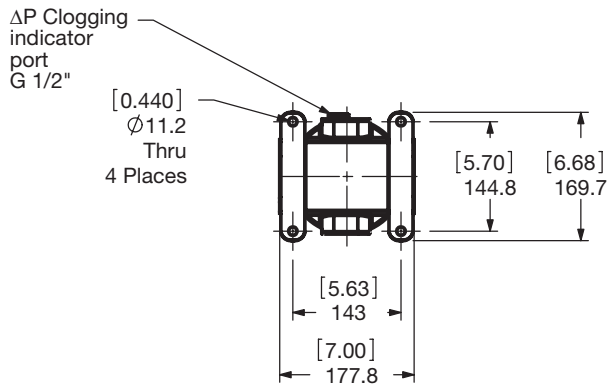
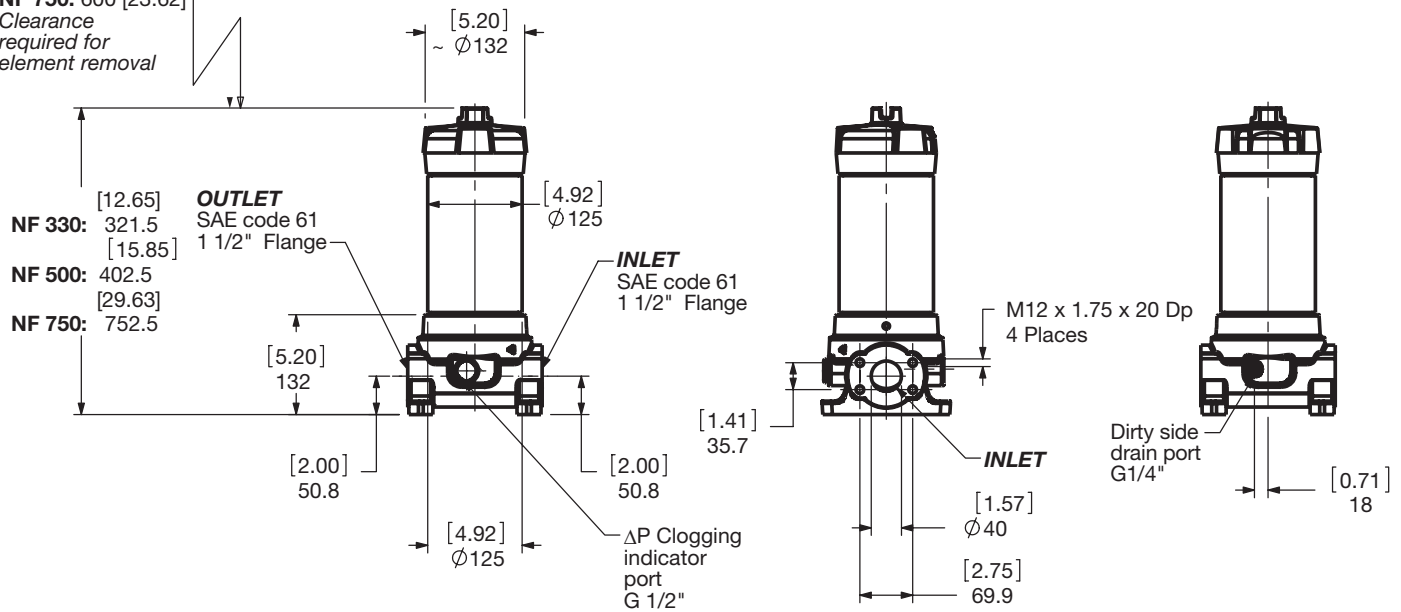
LOW PRESSURE FILTERS

Dimensions

NF 330 - 750 2.0 Version (In-line)



NF 330: 170 [6.69]
NF 500: 250 [9.84]
NF 750: 600 [23.62]
Clearance
required for
element removal

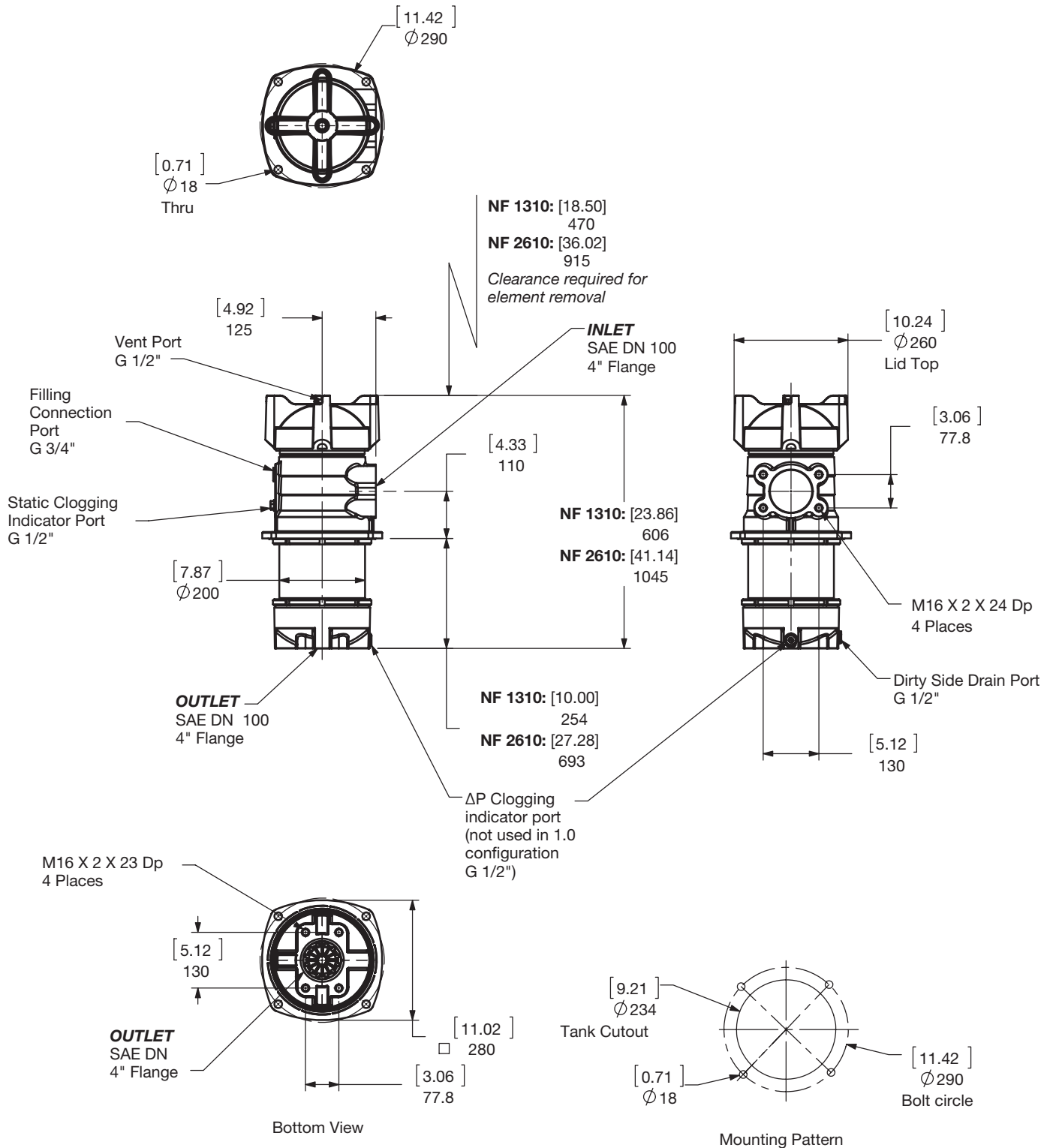


Bottom View
Mounting Pattern

Size	330	500	750
Weight (lbs.)	17.2	19.9	31.1

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.

Dimensions: NF 1310 / 2610 1.0 Version (In-Tank)



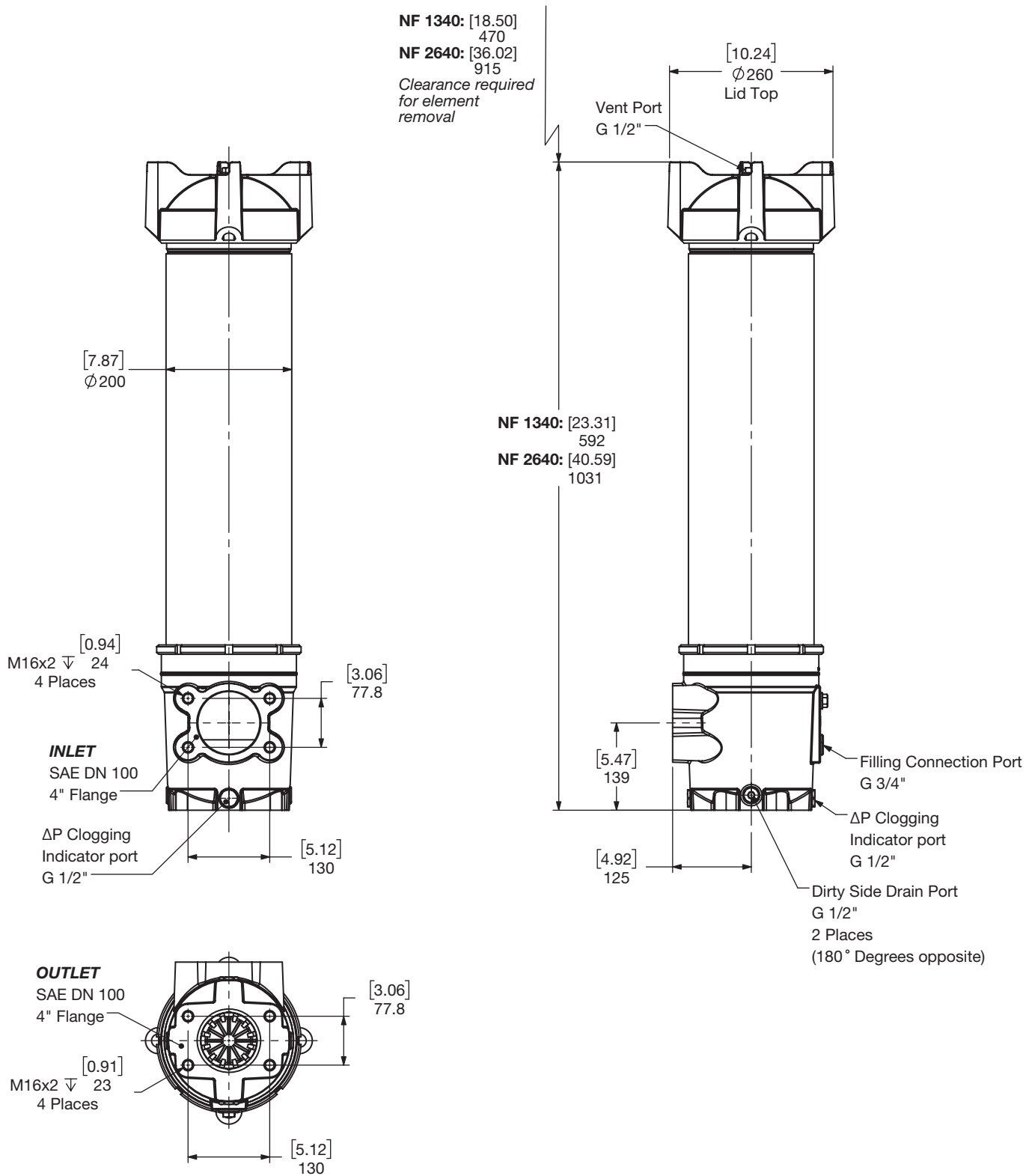
Size	1310	2610
Weight (lbs.)	37.5	50.7

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.

LOW PRESSURE FILTERS

Dimensions:

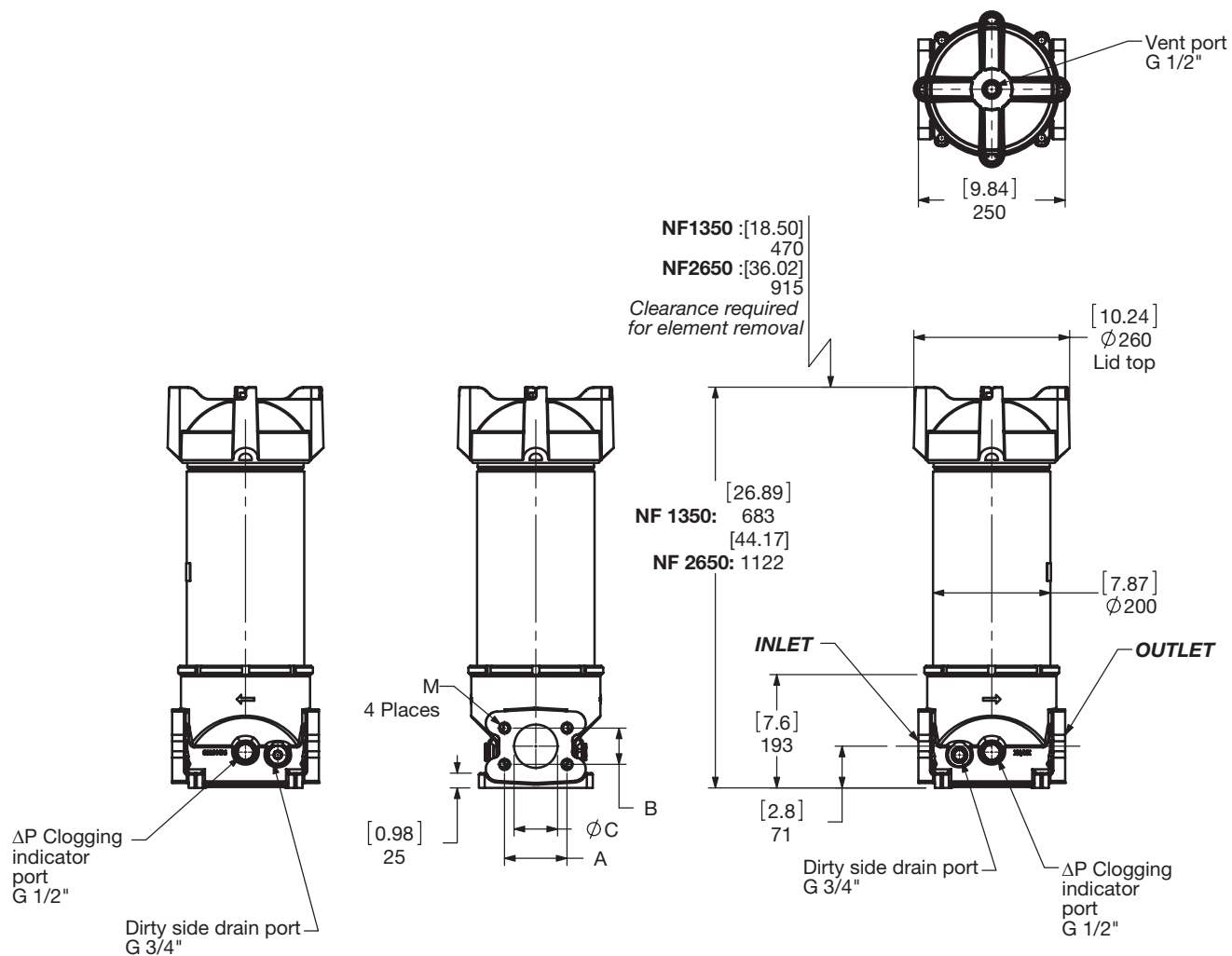
NF 1340 / 2640 2.0 Version (In-line)



Size	1340	2640
Weight (lbs.)	37.5	50.7

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include elements.
For complete dimensions please contact HYDAC to request a certified print.

Dimensions: NF 1350 / 2650 2.0 Version



Port Connections

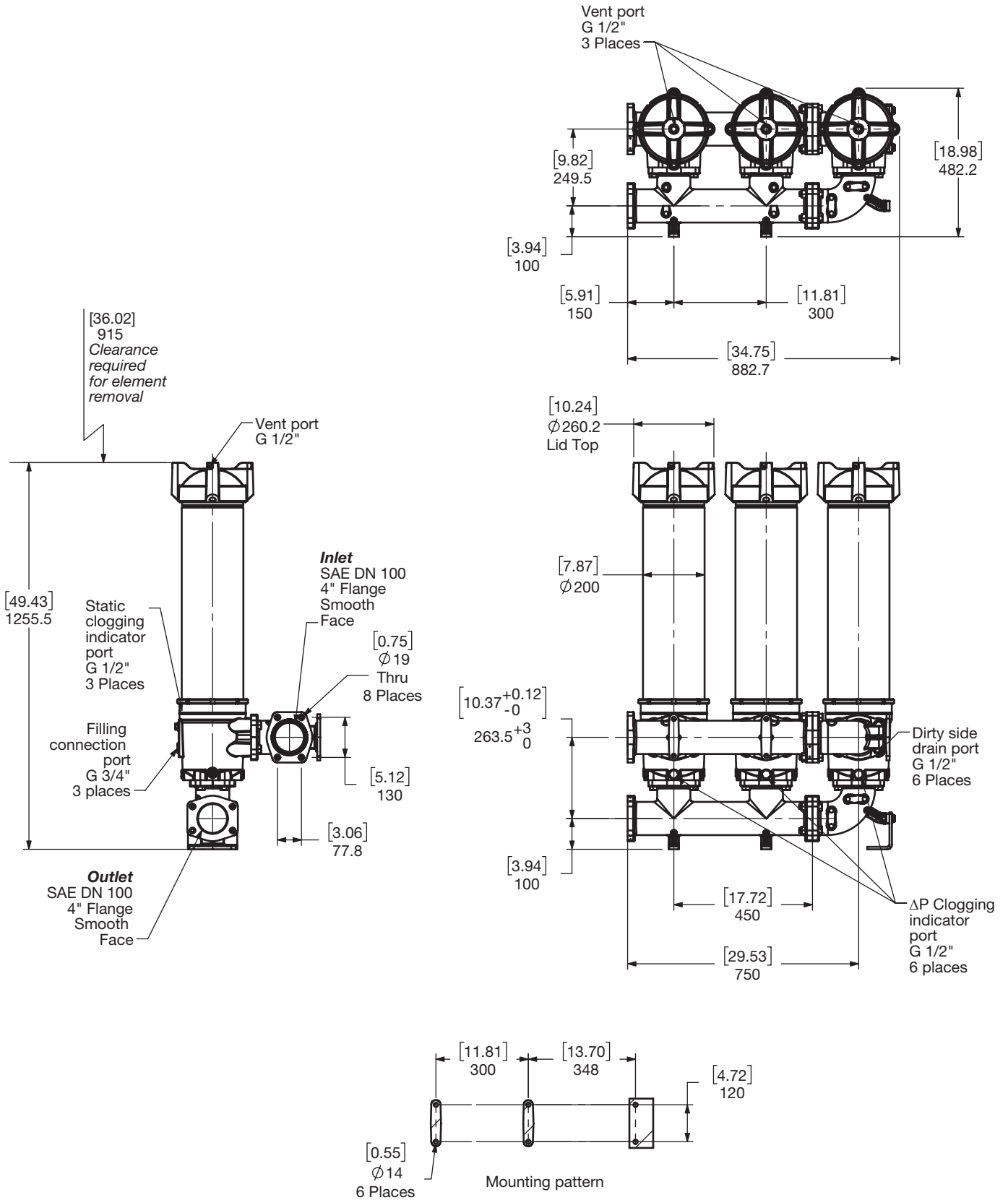
Flange	A	B	øC	M
2" SAE-DN 50	77.8	42.9	50	M12 x 1.75 x 19 DP
2 1/2" SAE-DN 65	88.9	50.8	65	M12 x 1.75 x 19 DP
3" SAE-DN 80	106.4	62.9	75	M16 x 2.0 x 24 DP
4" SAE-DN 100	130.2	77.8	100	M16 x 2.0 thru

Size	1350	2650
Weight (lbs.)	39.7	55.2

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include elements. For complete dimensions please contact HYDAC to request a certified print.

LOW PRESSURE FILTERS

Dimensions:
NF 7840 2.0 Version

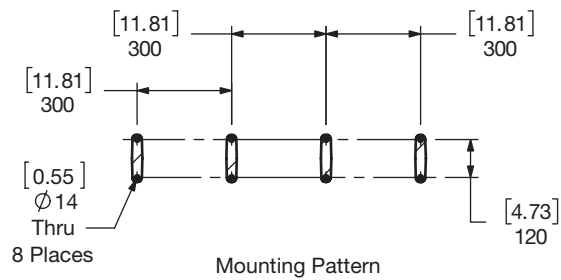
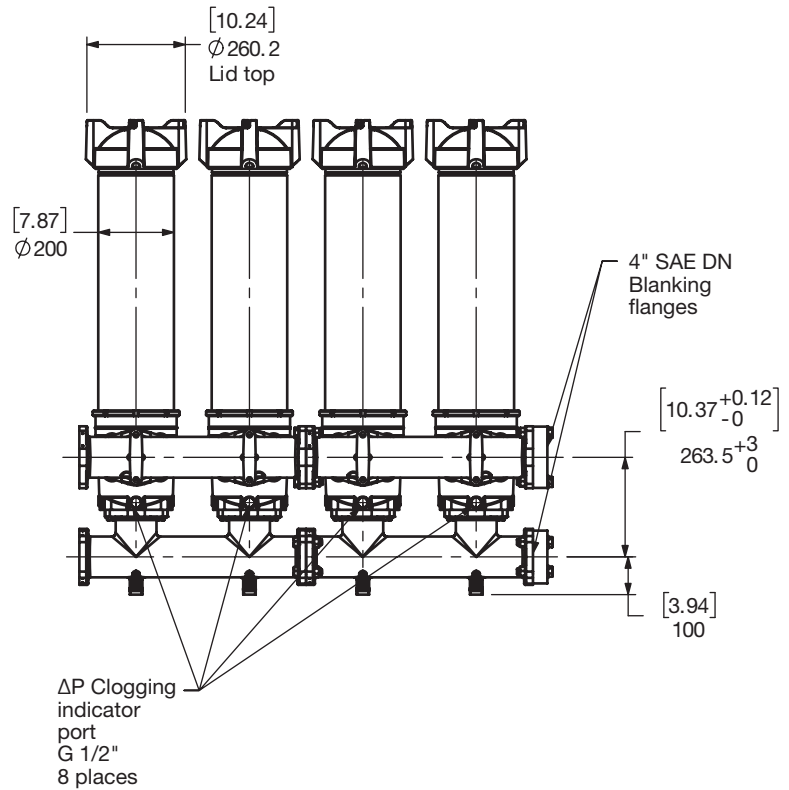
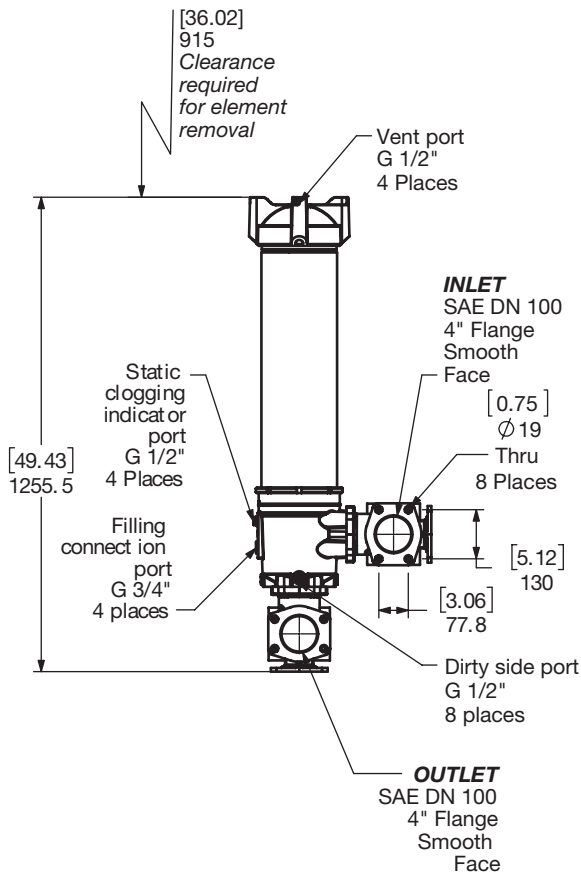
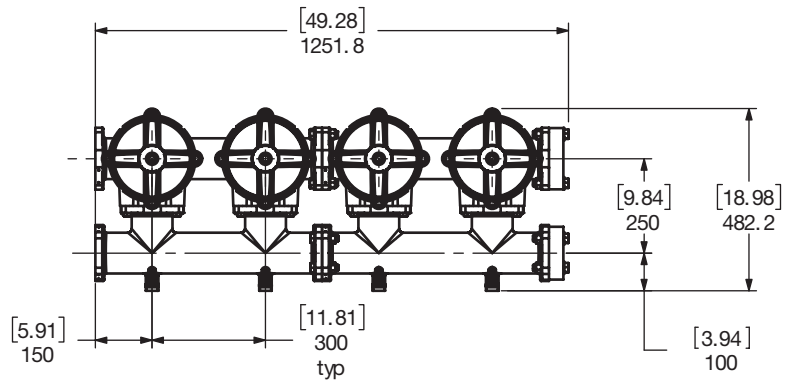


Size	7840
Weight (lbs.)	275.6

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include elements. For complete dimensions please contact HYDAC to request a certified print.

LOW PRESSURE FILTERS

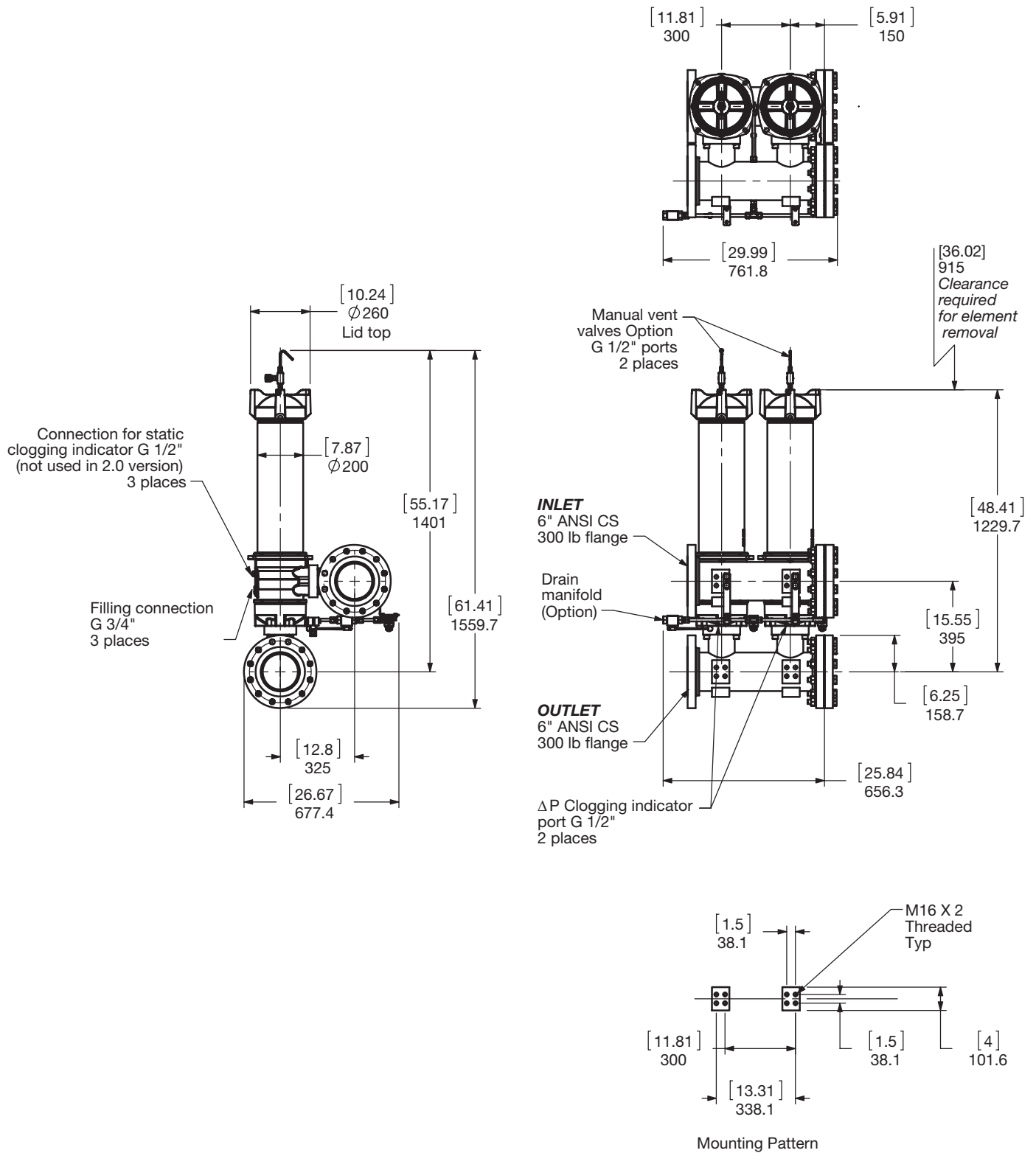
Dimensions:
NF 10440 2.0 Version



Size	10440
Weight (lbs.)	397

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include elements. For complete dimensions please contact HYDAC to request a certified print.

Dimensions: NF 5210DC7XX2.0/A EM-VKD (Modular Parallel High Flow)



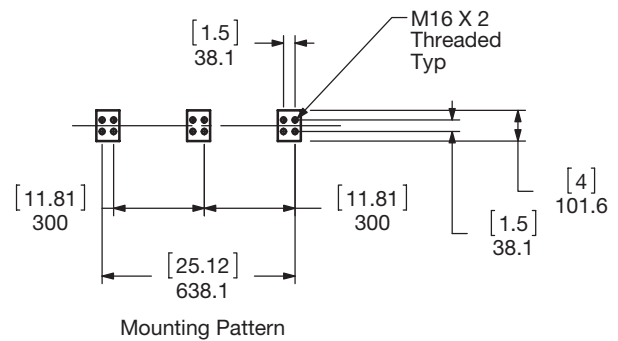
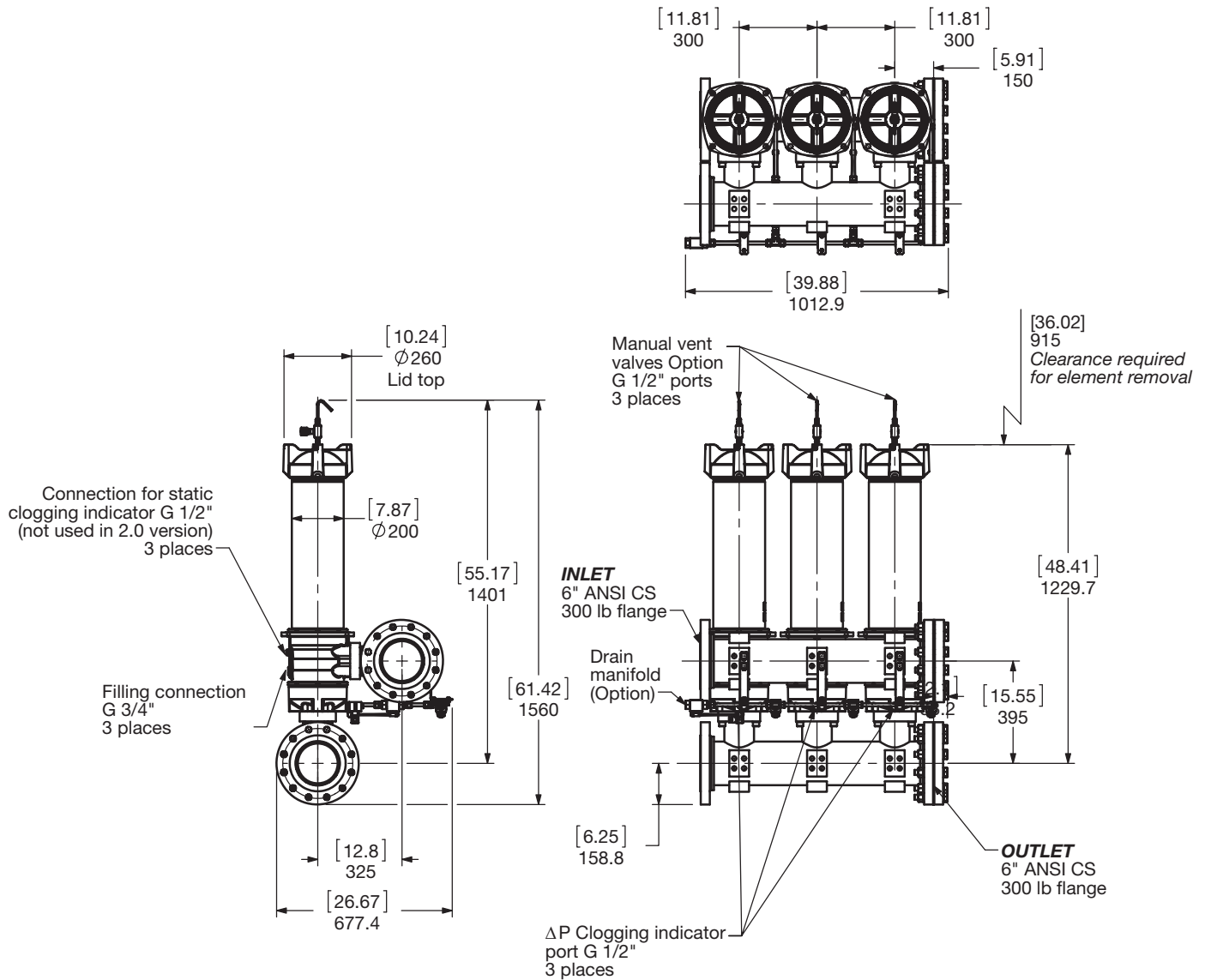
Size	5210DC7XX2.0/A EM-VKD
Weight (lbs.)	485

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include elements. For complete dimensions please contact HYDAC to request a certified print.

LOW PRESSURE FILTERS

Dimensions

NF 7810DC7XX2.0/A EM-VKD (Modular Parallel High Flow)



Size	7810DC7XX2.0/C EM-VKD
Weight (lbs.)	520

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:

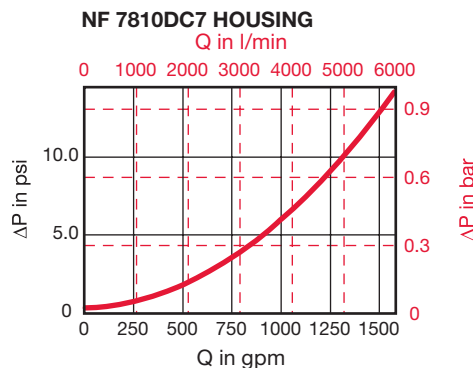
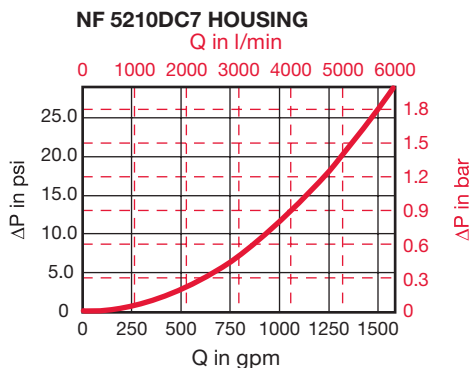
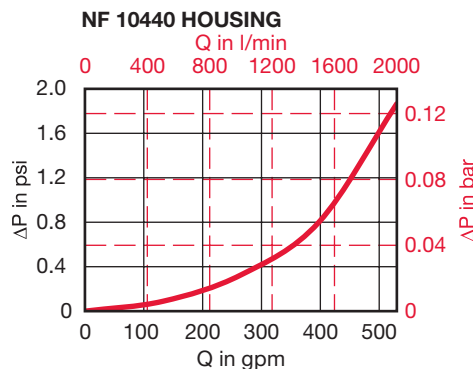
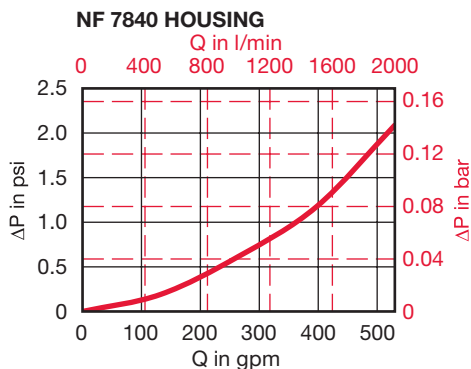
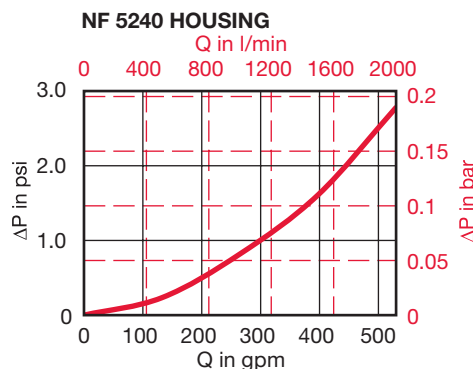
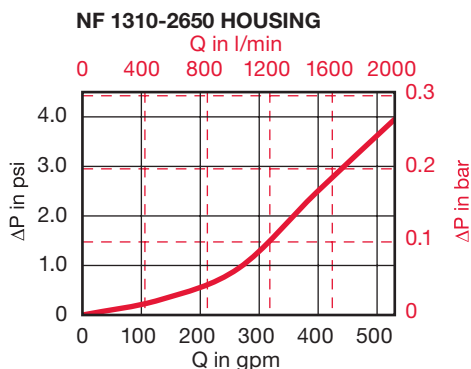
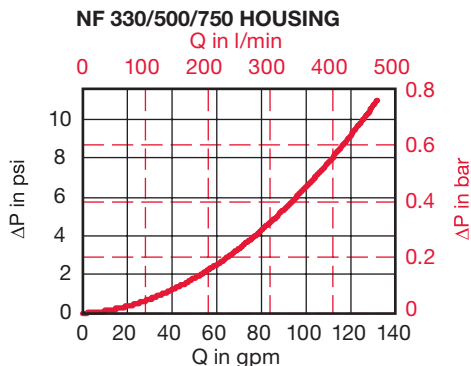
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

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)



LOW PRESSURE FILTERS

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)

Optimicron	...R...ON					
Size	1 µm	3 µm	5 µm	10 µm	15 µm	20 µm
0330 R XXX ON	0.444	0.204	0.15	0.081	0.07	0.056
0500 R XXX ON	0.289	0.143	0.104	0.06	0.046	0.038
0750 R XXX ON	0.116	0.061	0.05	0.029	0.019	0.018
1300 R XXX ON	0.094	0.04	0.032	0.019	0.018	0.012
2600 R XXX ON	0.046	0.02	0.016	0.01	0.009	0.006

Stat-X	...R...X SX			
Size	3 µm	5 µm	10 µm	20 µm
0330 R XXX X SX	0.204	0.15	0.081	0.056
0500 R XXX X SX	0.143	0.104	0.06	0.038
0750 R XXX X SX	0.061	0.05	0.029	0.018
1300 R XXX X SX	0.04	0.032	0.019	0.012
2600 R XXX X SX	0.02	0.016	0.01	0.006

ECOMICRON	...R...ECON2			
Size	3 µm	5 µm	10 µm	20 µm
0330 R XXX ECON2	0.230	0.148	0.093	0.066
0500 R XXX ECON2	0.165	0.104	0.071	0.044
0750 R XXX ECON2	0.071	0.049	0.033	0.022
1300 R XXX ECON2	0.044	0.033	0.022	0.016
2600 R XXX ECON2	0.022	0.016	0.011	0.005

Betamicron/Aquamicon	...R...BN4AM	
Size	3 µm	10 µm
0330 R XXX BN4AM	0.477	0.165
0500 R XXX BN4AM	0.313	0.11
0750 R XXX BN4AM	0.126	0.044
1300 R XXX BN4AM	0.088	0.033
2600 R XXX BN4AM	0.055	0.016

Aquamicon	...R...AM
Size	40 µm
0330 R 040 AM	0.115
0500 R 040 AM	0.076
0750 R 040 AM	0.030
1300 R 040 AM	0.026
2600 R 040 AM	0.013

Wire Mesh	...R...W/HC
Size	25, 50, 100, 200 µm
0330 R XXX W/HC	0.011
0500 R XXX W/HC	0.007
0750 R XXX W/HC	0.003
1300 R XXX W/HC	0.002
2600 R XXX W/HC	0.001

Polyester	...R...P/HC	
Size	10 µm	20 µm
0330 R XXX P/HC	0.016	0.008
0500 R XXX P/HC	0.011	0.005
0750 R XXX P/HC	0.004	0.002
1300 R XXX P/HC	0.004	0.002
2600 R XXX P/HC	0.002	0.001

