

# LOW PRESSURE FILTERS

## NFD Series

Inline Duplex Filters

360 psi • up to 450 gpm

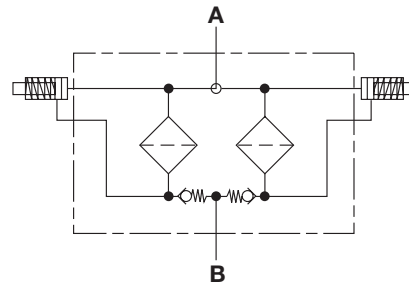


(2.0)



Version 2.0 pictured

### Hydraulic Symbol



Version 2.0

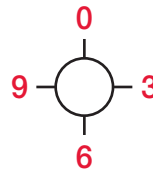
### Inlet / Outlet Port Location Configurator

NFD1340/2640 2.X Inlet/Outlet Available Configurations

	03		09
	33		39
	93		99

NFD5240/7840/10440 2.X Inlet/Outlet Available Configurations

	00	03		09
	30	33		39
	60			69
		93		99



- 0 = Pointed to Top
- 3 = Pointed to Front
- 6 = Pointed to Bottom
- 9 = Pointed to Back
- 33 = Stand Configuration (not given as supplementary details)

First Number = Inlet Orientation  
Second Number = Outlet Orientation

### Features

- NFD Filters have an extremely large filtration area and flow capacity of 450 gpm (4" pipe size limitation).
- Vent and drain ports are standard
- Aluminum alloy is water tolerant - anodization is not required for high water based fluids (HWBF)
- Screw-on lid provides easy access to filter element for replacement
- Filters can be fitted with clogging indicators to monitor the contamination level of the element
- NFD duplex filters have a ball-type diverter valve to provide continuous filtration and eliminate the need to shut-down the system during element changeout
- Flange connection bolts included for all SAE-DIN flange ports

Note: This filter is configured with an .....R.... 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.

### Technical Specifications

<b>Mounting Method</b>	See drawings	
<b>Port Connection</b>	SAE DN 102 Flange Code 61	
<b>Flow Direction</b>	Inlet: Side      Outlet: Side	
<b>2.0 version</b>		
<b>Construction Materials</b>	Aluminum Ductile Iron	
<b>Flow Capacity</b>	1340      343 gpm (1300 lpm) 2640, 5240, 7840, 10440      450 gpm (1700 lpm)	
<b>Housing Pressure Rating</b>	Max. Allowable Working Pressure* 360 psi (25 bar) Fatigue Pressure 360 psi (25 bar) Burst Pressure Contact HYDAC office	
<b>Element Collapse Pressure Rating</b>	ON, W/HC 290 psid (20 bar) ECON2, BN4AM, P/HC, AM 145 psid (10 bar) V 435 psid (30 bar)	
<b>Fluid Temperature Range</b>	-22°F to 212°F (-30°C to 100°C) Consult HYDAC for applications below -22°F (-30°C)	
<b>Fluid Compatibility</b>	Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.	
<b>Indicator Trip Pressure</b>	ΔP = 29 psid (2 bar) -10%      2.X - Differential ΔP = 72 psid (5 bar) -10%	
<b>Bypass Valve Cracking Pressure</b>	ΔP = 14.5 psid (1 bar) +10% ΔP = 43 psid (3 bar) +10% (standard) ΔP = 87 psid (6 bar) +10%	

\*Note: All NFD...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.

### Applications



Agricultural



Automotive



Construction



Gearboxes



Industrial



Offshore

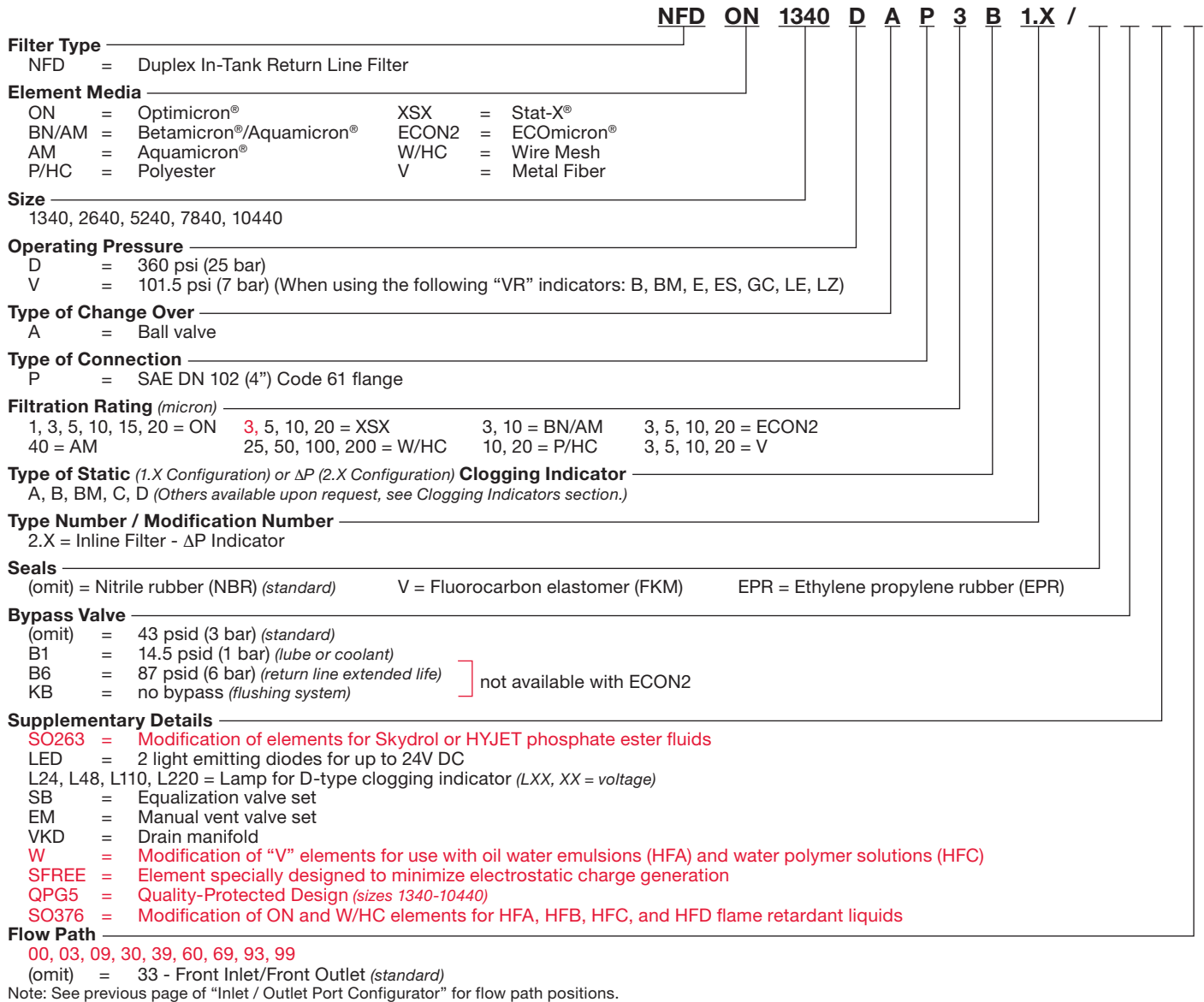


Power Generation

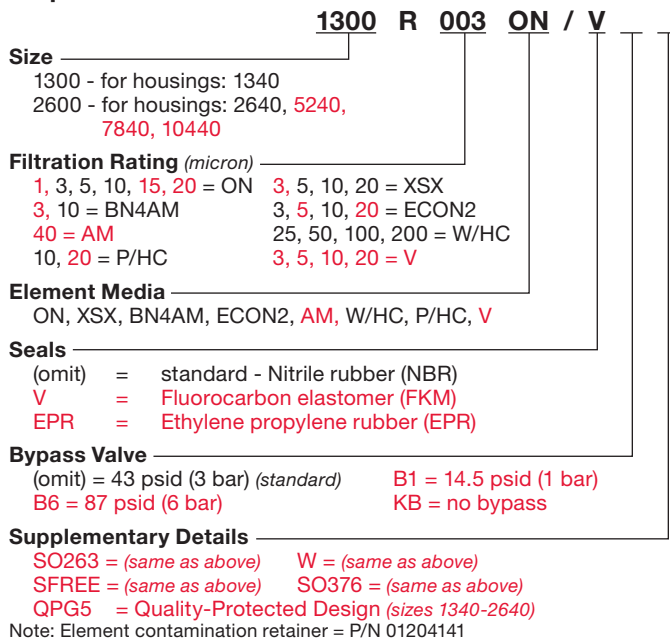


Pulp & Paper

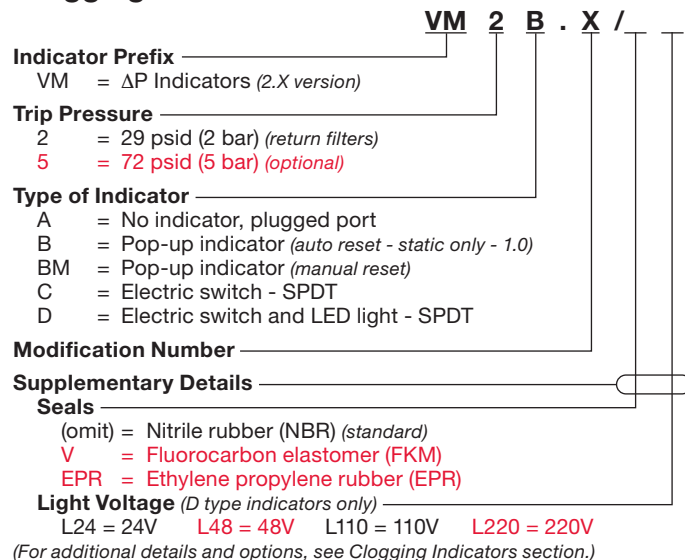
## Model Code



## Replacement Element Model Code



## Clogging Indicator Model Code

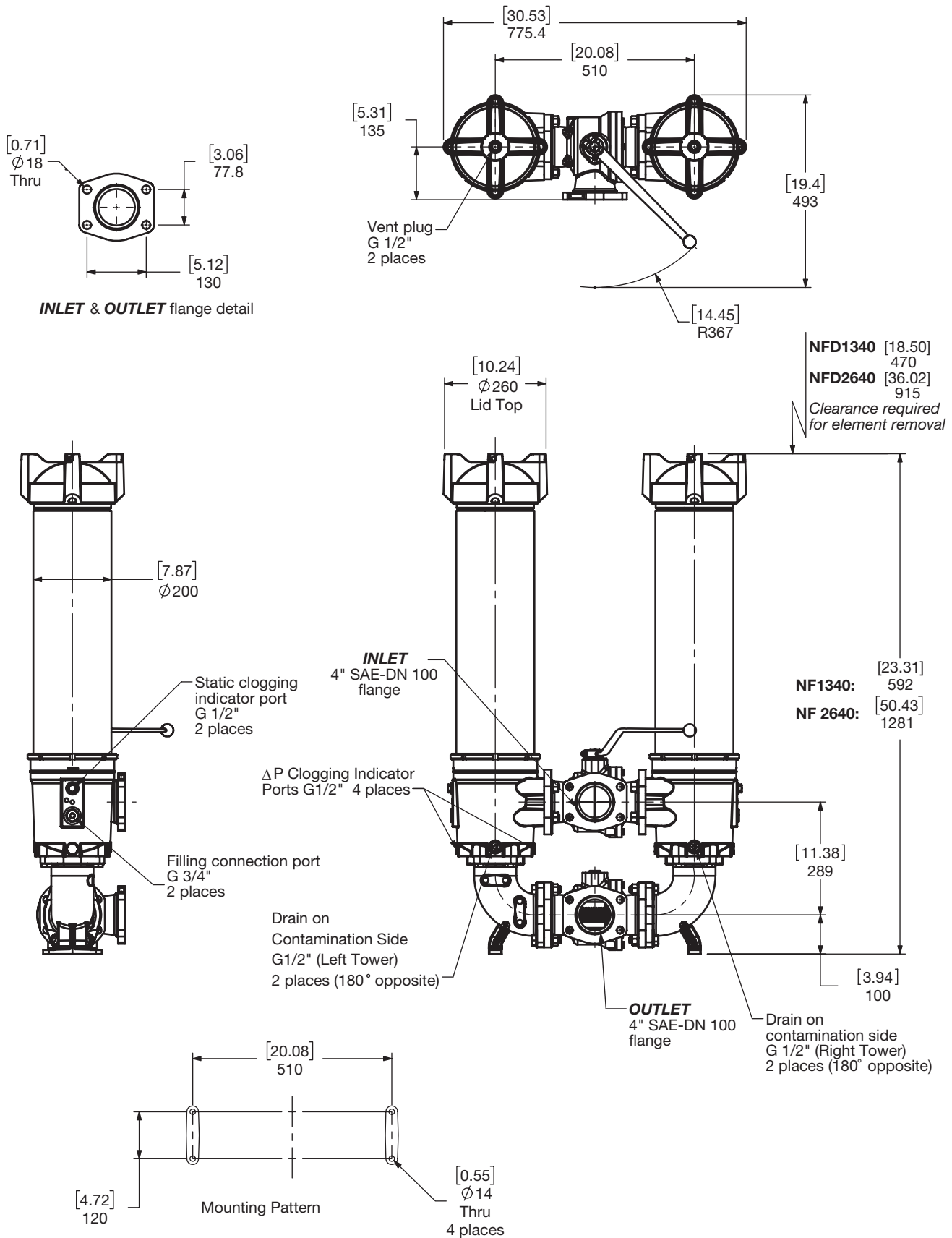


*Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability*

# LOW PRESSURE FILTERS

## Dimensions

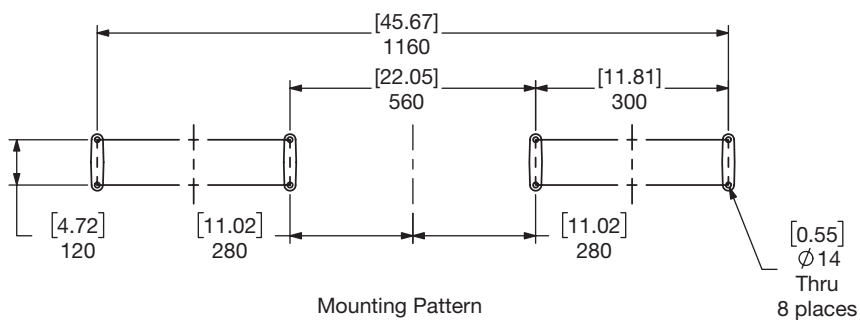
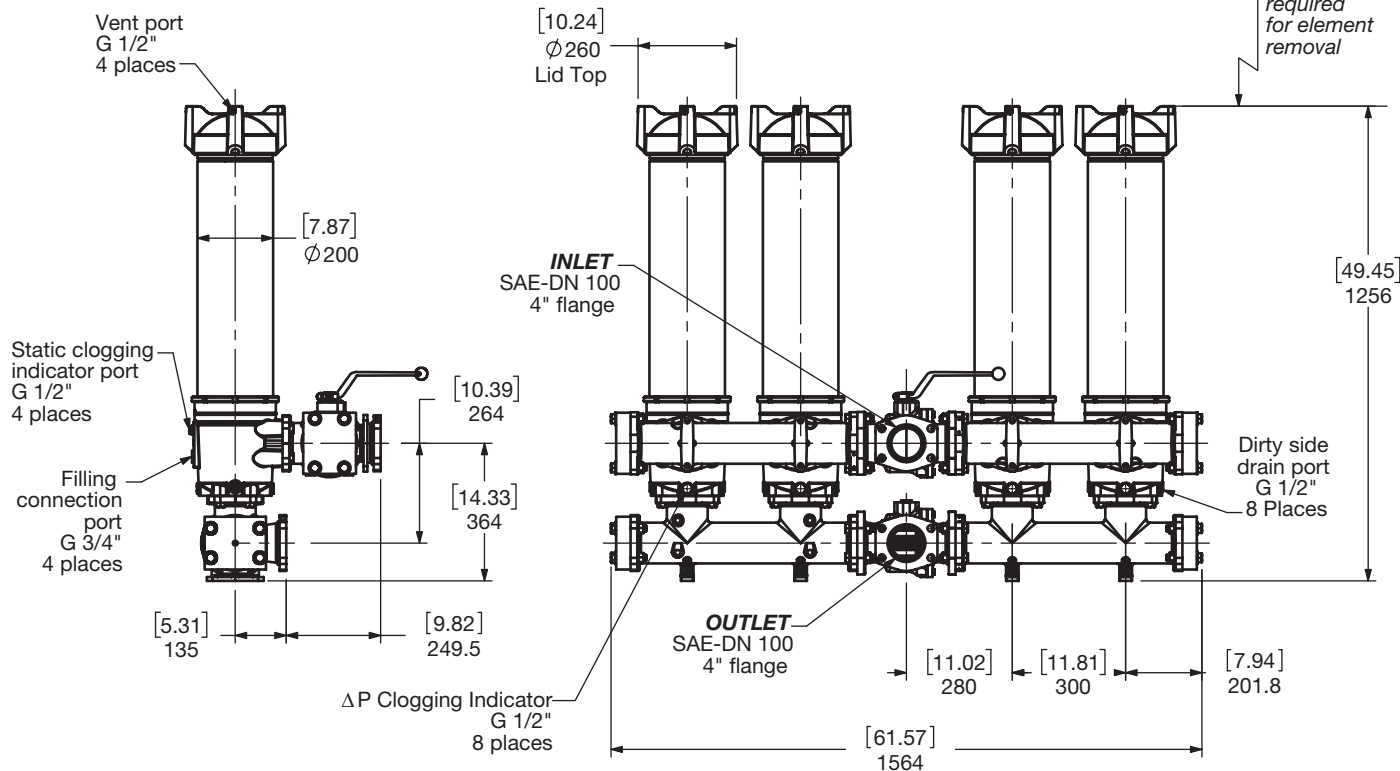
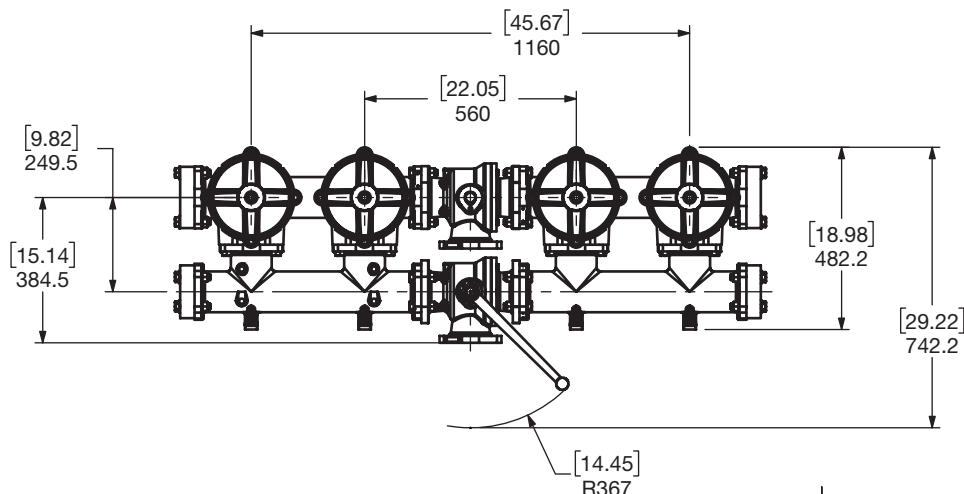
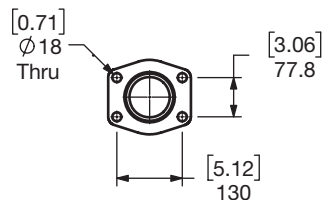
### NFD 1340 / 2640 – 2.0 Version



Size	1340 Version 2.0	2640 Version 2.0
Weight (lbs)	187.6	220.7

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.

## Dimensions: NFD 5240 – 2.0 Version

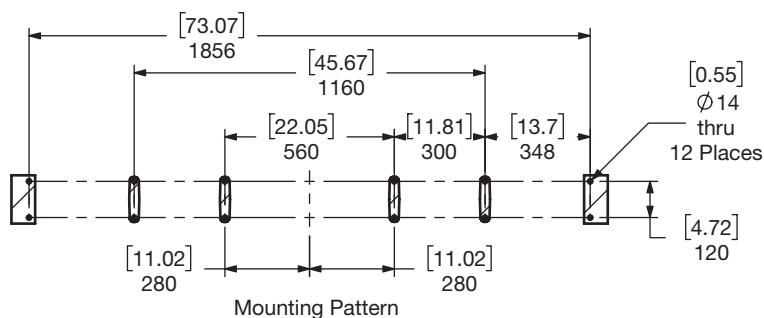
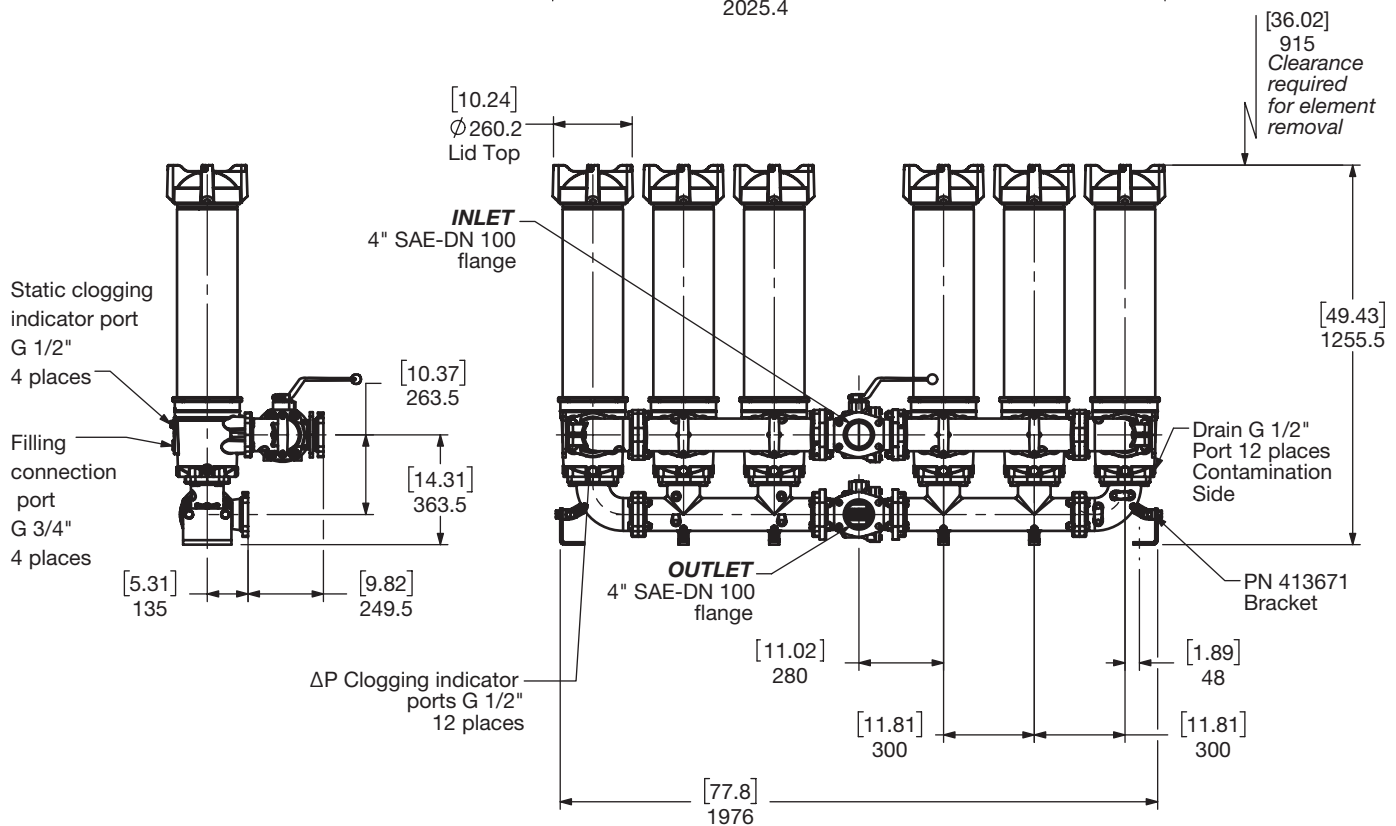
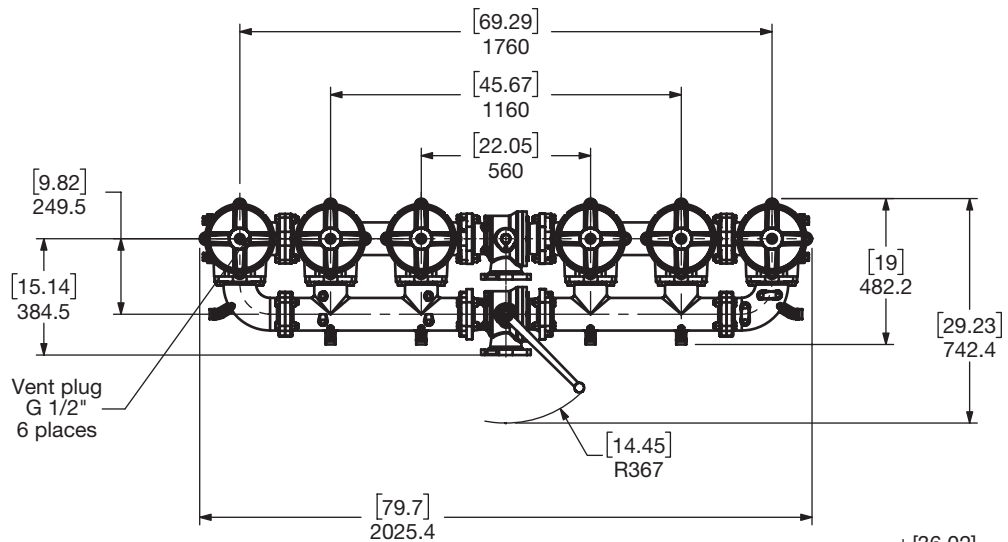


<b>Size</b>	<b>5240 Version 2.0</b>
<b>Weight (lbs.)</b>	590.3

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

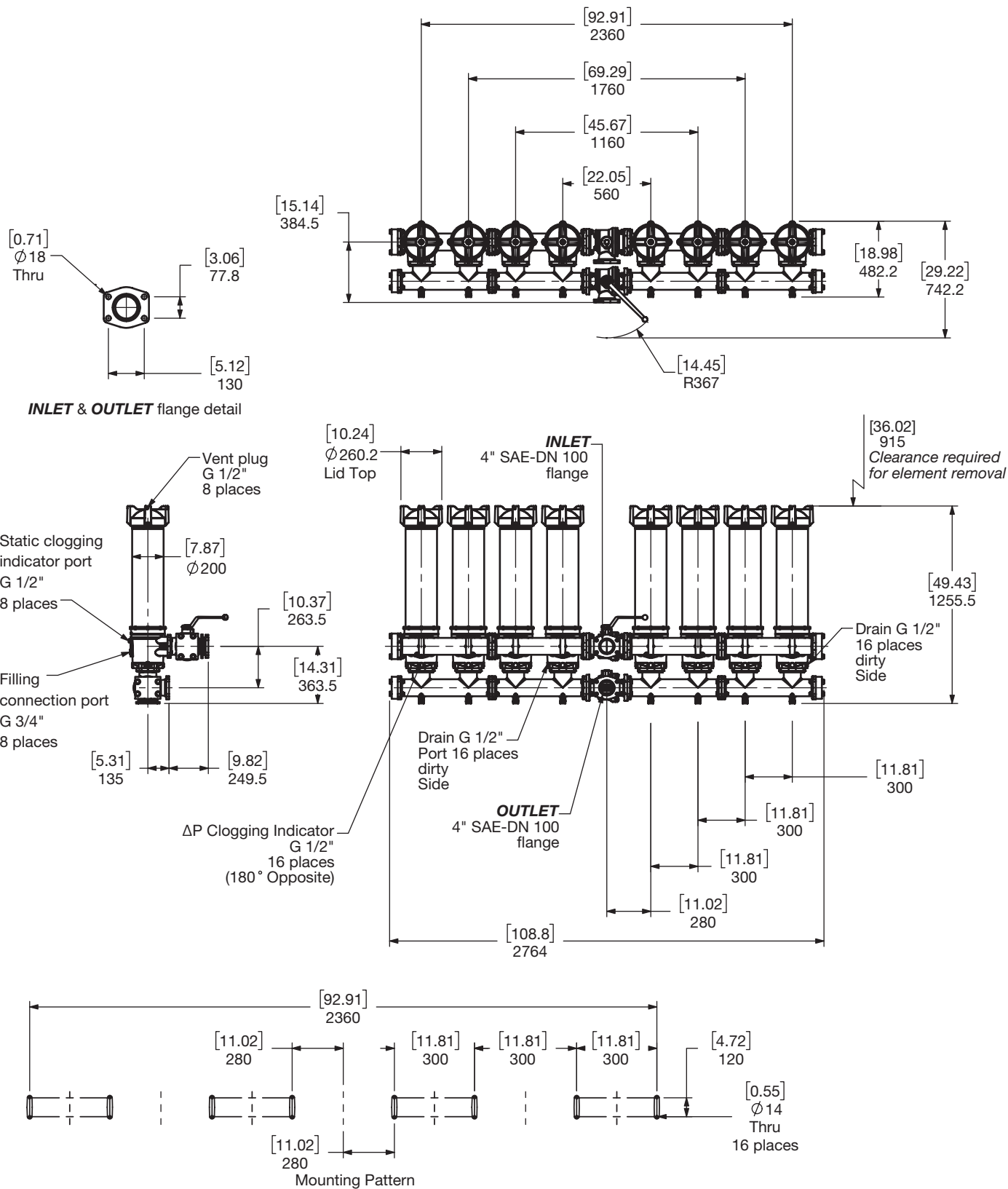
Dimensions:  
NFD 7840 – 2.0 Version



Size	7840 Version 2.0
Weight (lbs.)	833.4

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: NFD 10440 – 2.0 Version



<b>Size</b>	<b>10440 Version 2.0</b>
<b>Weight (lbs.)</b>	1085.3

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

## Sizing Information

Total pressure loss through the filter is as follows:

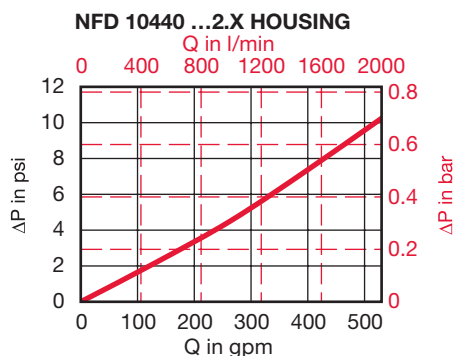
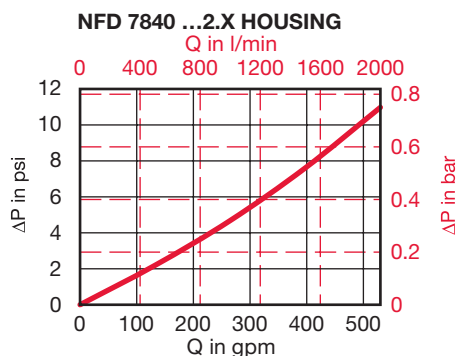
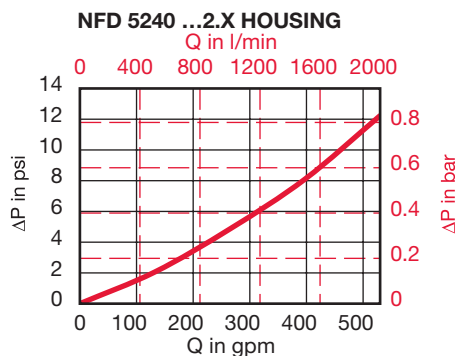
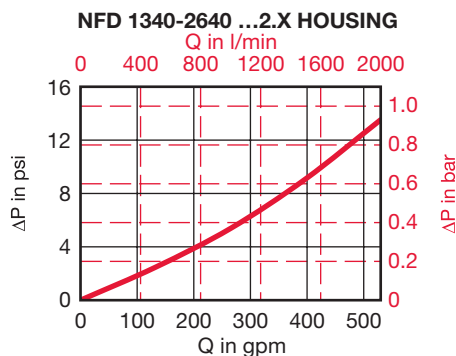
$$\text{Assembly } \Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$$

### 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)

Optimicron	...R...ON					
	1 μm	3 μm	5 μm	10 μm	15 μm	20 μm
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...XSX			
	3 μm	5 μm	10 μm	20 μm
1300 R XXX XSX	0.04	0.032	0.019	0.012
2600 R XXX XSX	0.02	0.016	0.01	0.006

ECOMICRON	...R...ECON2			
	3 μm	5 μm	10 μm	20 μm
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	
	3 μm	10 μm
1300 R XXX BN4AM	0.088	0.033
2600 R XXX BN4AM	0.055	0.016

Aquamicon	...R...AM
	40 μm
1300 R 040 AM	0.026
2600 R 040 AM	0.013

Wire Mesh	...R...W/HC
	Size
1300 R XXX W/HC	25, 50, 100, 200 μm 0.002
2600 R XXX W/HC	0.001

Polyester	...R...P/HC	
	Size	10 μm
1300 R XXX P/HC	0.004	0.002
2600 R XXX P/HC	0.002	0.001

All Element K Factors in psi / gpm.

## Notes

