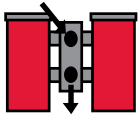


SPECIAL ORDER FILTERS - LOW PRESSURE

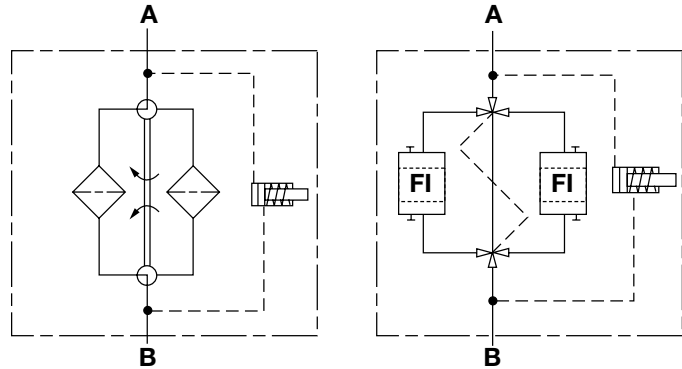
AFLD API 614 Series

Inline Duplex Filters

232 psi • up to 630 gpm



Hydraulic Symbol



Features

- Filter series designed to meet the requirements of API 614 for lube oil and other applications.
- Models are available in carbon and stainless steel versions.
- Transfer valve internal components of stainless steel.
- ANSI flange connections standard
- Inlet and outlet connections are located on the same side of the transfer valve.
- Transfer valve and pressure equalization line allow easy changeover between filter housings without costly system shutdown.
- Air bleed line and drain line available.
- ASME coded with ASME-stamp
- CRN available
- AS1210 available
- GOST available
- 3.1 material certificate standard
- API 614 requires compliant filters to be non-bypass

Notes: Most states and local jurisdictions in the United States require pressure vessels to be ASME stamped. It is the responsibility of the end customer to research and fully understand the ASME code requirements of the jurisdiction this filter will ultimately be installed in, and to fully communicate these requirements to HYDAC.

Applications



Off Shore



Power Generation



Industrial

Technical Specifications

Mounting Method	Floor mounted legs <i>(Filters must not be used as pipe support)</i>	
Port Connection		
122/123	1"	ANSI 150# Flanges*
232/233	1.5"	ANSI 150# Flanges*
332/333	2"	ANSI 150# Flanges*
502/503	2"	ANSI 150# Flanges*
542/543	2"	ANSI 150# Flanges*
882/883	3"	ANSI 150# Flanges*
1402/1403	4"	ANSI 150# Flanges*
2702/2703	6"	ANSI 150# Flanges*
Flow Direction	Inlet: Front Top Outlet: Front Bottom	
Construction Materials <i>(Transfer valve balls and spindle, stainless steel)</i>		
122, 232, 332, 502, 542, 882, 1402, 2702	Carbon Steel	
123, 233, 333, 503, 543, 883, 1403, 2703	Stainless Steel	
Flow Capacity @ 32 CSt		
122/123	20 gpm	76 lpm
232/233	45 gpm	171 lpm
332/333	58 gpm	220 lpm
502/503	66 gpm	250 lpm
542/543	79 gpm	300 lpm
882/883	211 gpm	800 lpm
1402/1403	330 gpm	1250 lpm
2702/2703	449 gpm	1700 lpm
Housing Pressure Rating		
Max. Allowable Working Pressure	232 psi (16 bar) standard	
Fatigue Pressure	Contact HYDAC	
Burst Pressure	Contact HYDAC*	
<i>*(other pressures available upon request)</i>		
Element Collapse Pressure Rating		
ON/PO	145 psid (10 bar)	
Fluid Temperature Range	14°F to 212°F (-10°C to 100°C)	
Consult HYDAC for applications 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 <i>(optional)</i>		
ΔP = 29 psid (2 bar) -10% <i>(non-bypass per API 614)</i>		

SPECIAL ORDER FILTERS - LOW PRESSURE

Model Code

AFLD ON/PO 1402 C A 5 10 W 1 . X / Z U 150 V DH

Filter Type _____

Element Media _____
ON/PO = Optimicron® Power with Stat-Free®

Size _____
122/123, 232/233, 332/333, 502/503, 542/543, 882/883, 1402/1403, 2702/2703

Operating Pressure _____
C = 232 psi (16 bar)

Type of Change Over Valve _____
A = Ball Valve

Type of Connection _____
1 = 1" ANSI 150# Flange (sizes 122/123)*
2 = 1.5" ANSI 150# Flange (sizes 232/233)*
3 = 2" ANSI 150# Flange (sizes 332/333, 502/503, 542/543)*
4 = 3" ANSI 150# Flange (sizes 882/883)*
5 = 4" ANSI 150# Flange (sizes 1402/1403)*
7 = 6" ANSI 150# Flange (sizes 2702/2703)
**(300# and 600# available upon request)*

Filtration Rating (microns) _____
10 = ON/PO

Type of ΔP Clogging Indicator _____

A	= No indicator	Indicator Model
B	= Pop-up indicator (auto-reset)	VM...B
C	= electric switch	VM...C
D	= electric switch and light	VM...D/L (lamp voltage selected from supplementary section)
W	= no indicator block supplied - D/P ports on vessel plugged (standard)	

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

Type Code _____
1

Modification Number (latest version always supplied) _____

Country of Installation _____
(omit) = (non coded)
ZU = ASME Coded with "ASME" Stamp (with 3.1 material and pressure test certification)
Z = 3.1 material and pressure test certification (standard - documentation only)

Flange _____
150 = 150 lbs ANSI Flange
300 = 300 lbs ANSI Flange

Seals _____
(omit) = Nitrile rubber (NBR) (standard) **V = Fluorocarbon elastomer (FKM)**

Bypass Valve _____
(omit) = No Bypass (API standard)

Supplementary Details _____
DH = Cover Lifting Device (Davit lifting mechanism for sizes 2702 / 2703 only)
L24, L48, L110, L220 = Lamp for D-type clogging indicator (LXX, XX = voltage)
VKD = Drain piping
EM = Air bleed valves

Replacement Element Model Code

0880 A 010 ON/PO / V

Size _____
0120, 0230, 0330, 0500, 0540,
0880, 2600, 2700

Filtration Rating (micron) _____
10 = ON/PO

Element Media _____
ON/PO

Seals _____
(omit) = Nitrile rubber (NBR) (standard)
V = Fluorocarbon elastomer (FKM)

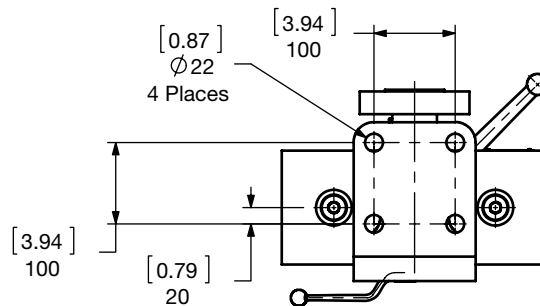
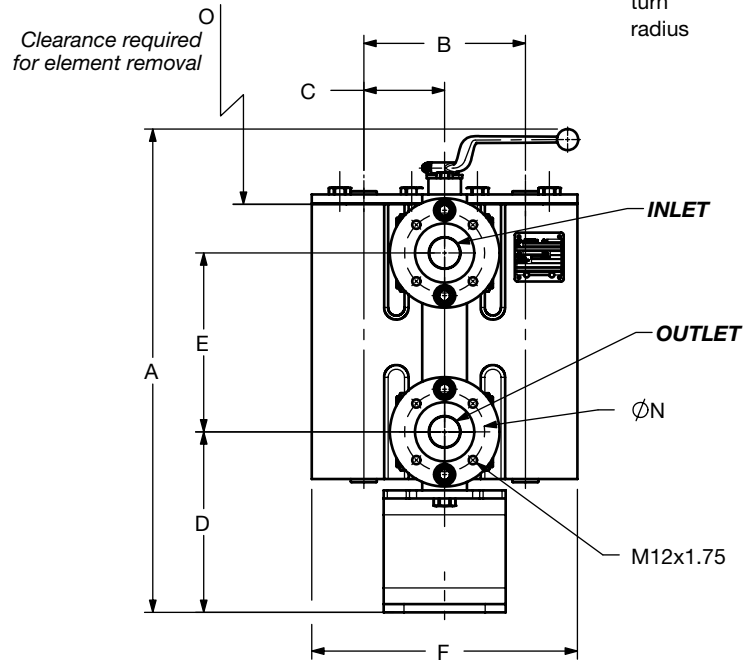
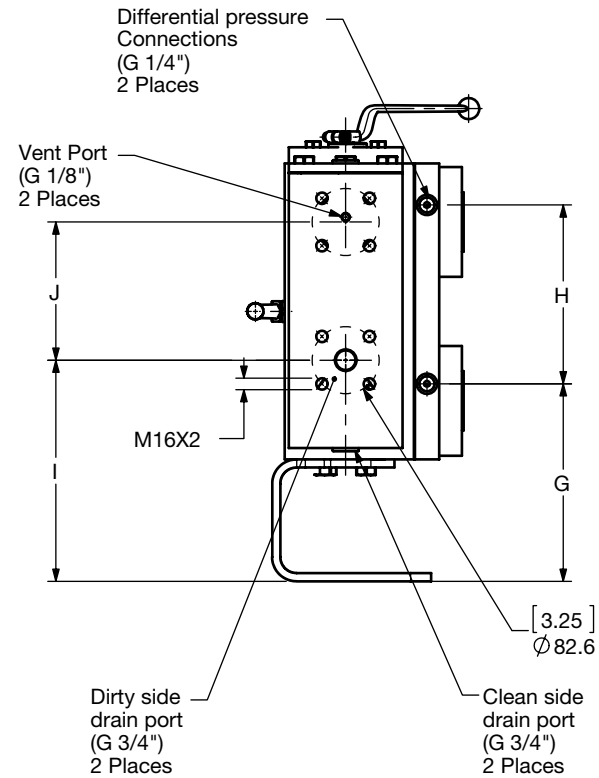
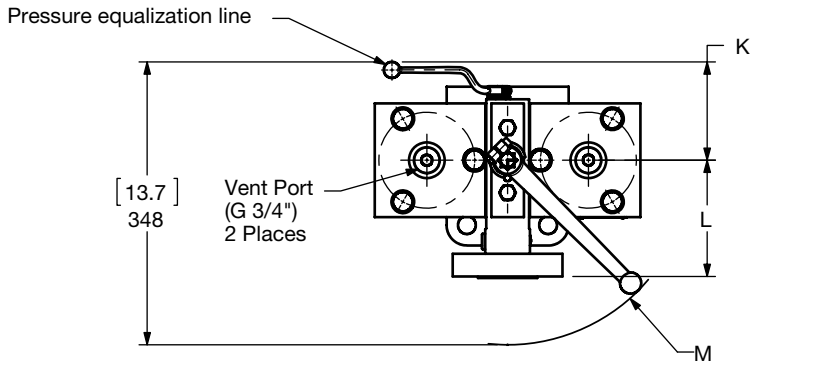
Note: Elements supplied with no bypass valve per API 614.

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

SPECIAL ORDER FILTERS - LOW PRESSURE

Dimensions

AFLD 122 / 123 / 232 / 233



Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Connection
AFLD 122/123	[20.24] 514	[4.99] 126.8	[2.49] 63.4	[7.87] 200	[6.10] 155	[9.09] 230.8	[8.50] 216	[6.10] 155	[9.02] 229	[6.04] 153.5	[3.78] 96	[4.25] 108	[7.20] 183	[3.13] 79.4	[7.68] 195	ANSI 150 lb RF 1"
AFLD 232/233	[23.5] 597	[7.04] 178.8	[3.91] 89.4	[8.74] 222	[8.66] 220	[12.87] 326.8	[9.57] 243	[8.66] 220	[10.71] 22	[6.69] 170	[4.79] 121.7	[5.71] 145	[8.94] 227	[3.87] 98.4	[8.07] 205	ANSI 150 lb RF 1.5"

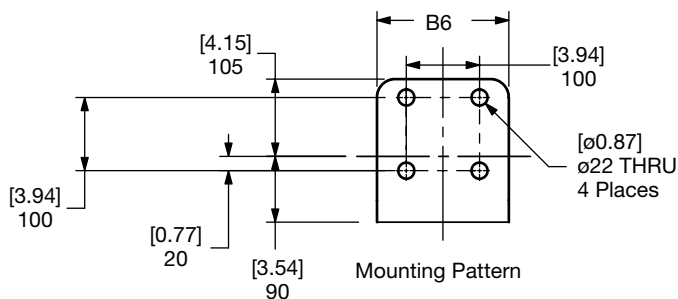
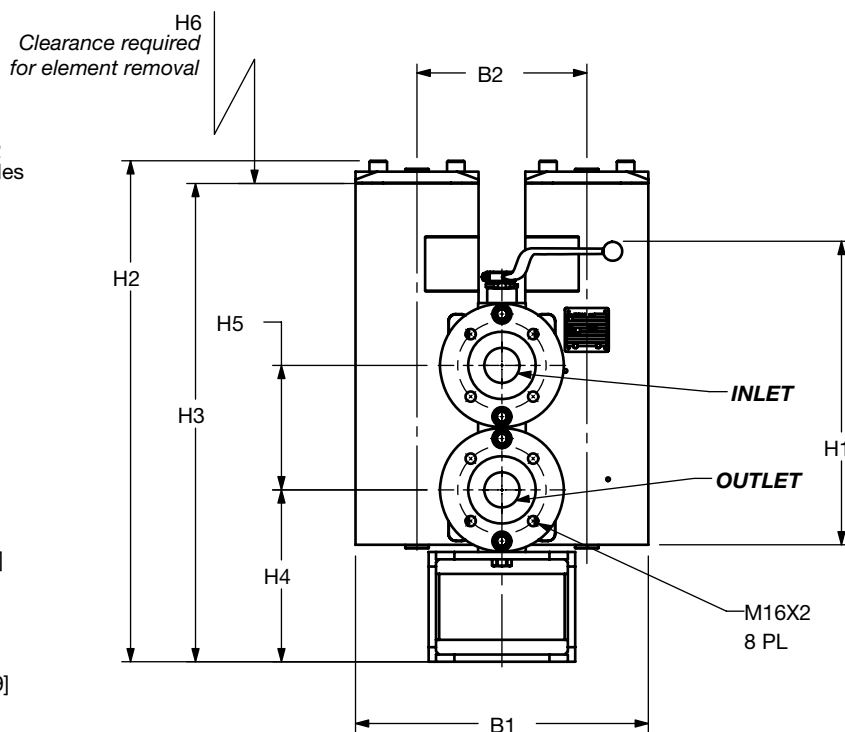
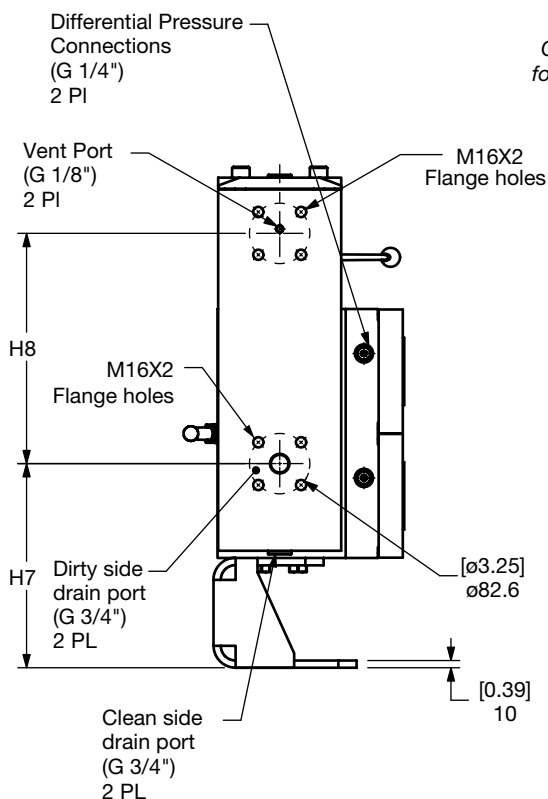
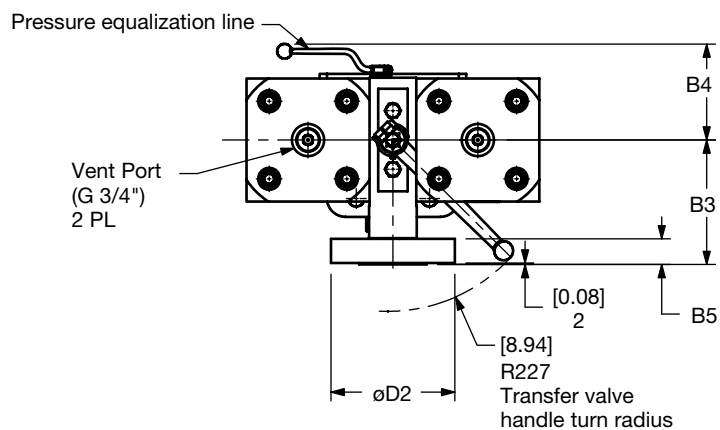
Size	122 / 123	232 / 233
Weight (lbs.)	122.4	269.8

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 - LOW PRESSURE

Dimensions

AFLD 332 / 333 / 502 / 503 / 542 / 543



Size	Flange Size	B1	B2	B3	B4	B5	B6	D2	H1	H2	H3	H4	H5	H6	H7	H8
AFLD 332/333	2" 150 lb	[15.75] 400	[9.13] 232	[6.69] 170	[5.16] 131	[1.38] 35	[5.91] 150	[6.65] 169	[22.56] 573	[20.59] 523	[19.65] 499	[9.25] 235	[6.69] 170	[8.07] 205	[11.38] 289	[5.91] 150
AFLD 502/503		[15.75] 400	[9.13] 232	[6.69] 170	[5.16] 131	[1.38] 35	[5.91] 150	[6.65] 169	[25.71] 653	[23.78] 604	[22.83] 580	[9.25] 235	[6.69] 170	[11.81] 300	[11.38] 289	[9.09] 231
AFLD 542/543		[15.75] 400	[9.13] 232	[6.69] 170	[5.16] 131	[1.38] 35	[5.91] 150	[6.65] 169	[22.56] 573	[26.69] 678	[25.71] 653	[9.25] 235	[6.69] 170	[14.57] 370	[12.4] 315	[12.4] 315

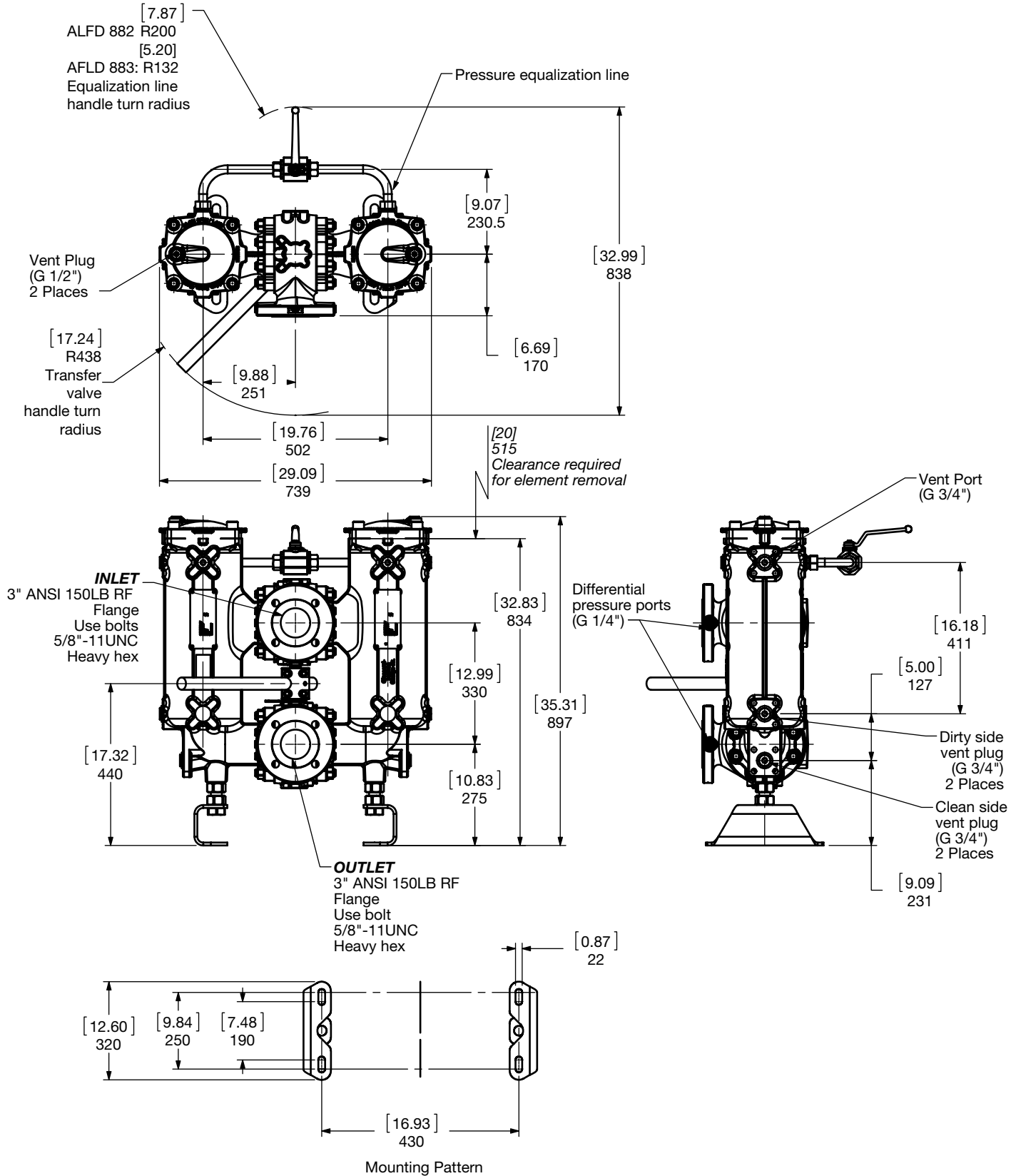
Size	332 / 333	502 / 503	542 / 543
Weight (lbs.)	440.9	496	551.1

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.

SPECIAL ORDER FILTERS - LOW PRESSURE

Dimensions

AFLD 882 / 883

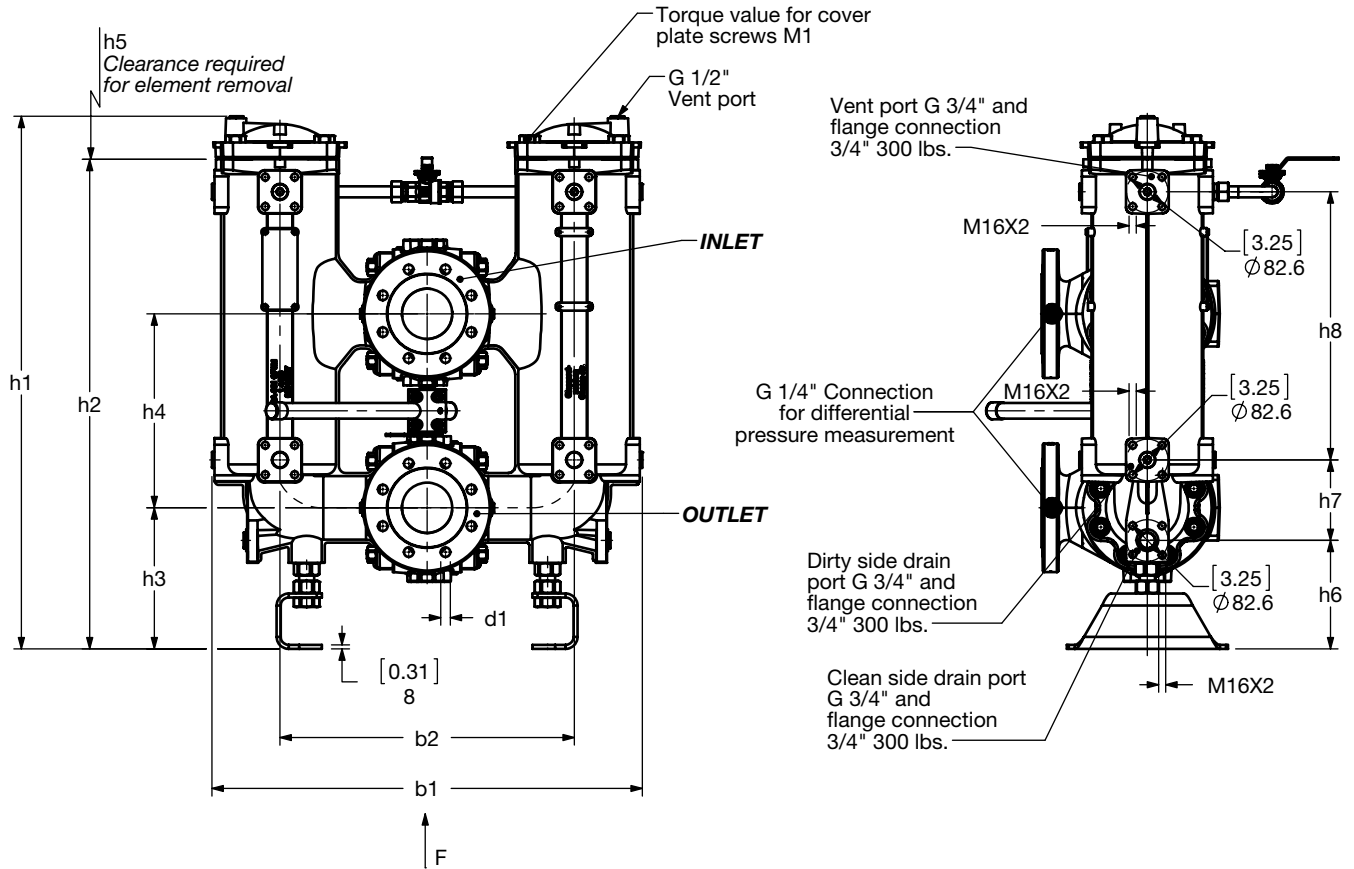
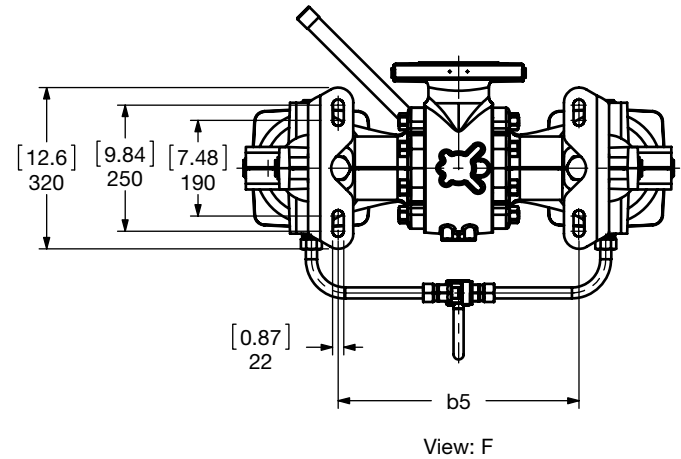
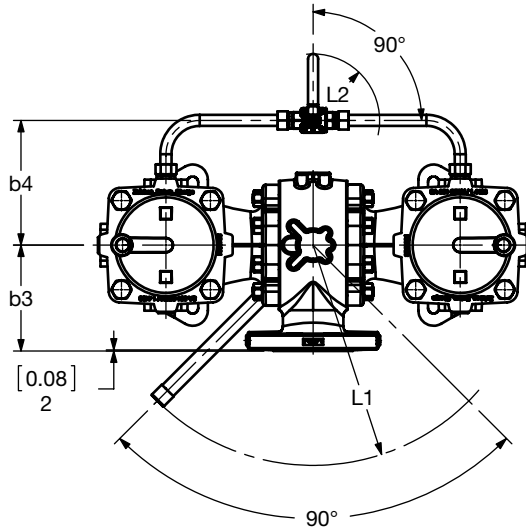


Size	882	883
Weight (lbs.)	441	441

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 - LOW PRESSURE

Dimensions AFLD 1402 / 1403



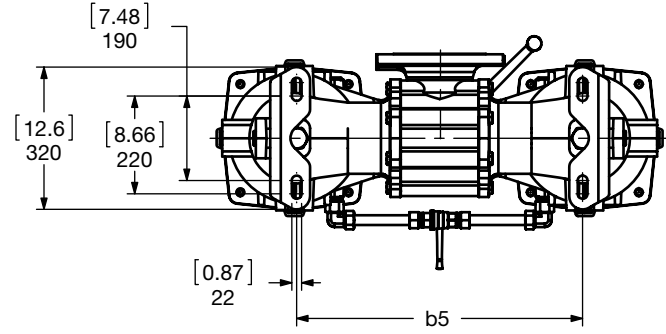
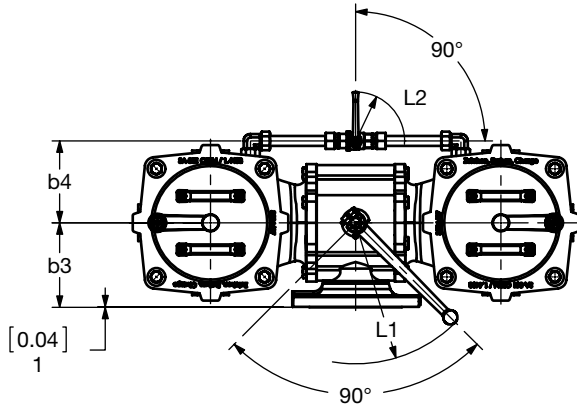
Size	Flange Size	b_1	b_2	b_3	b_4	b_5	d_1	h_1	h_2	h_3	h_4	h_5	h_6	h_7	h_8	L_1	L_2	M1 [N/m]	Vol. of Pressure Vessel, [liters]	
AFLD 1402	4" 150 lbs	[33.6] 854	[23] 584	[8.3] 210	[6.1] 155	[18.8] 478	8 x $\text{ø}19$	[41.6] 1057	[38.3] 972	[11] 280	[15.2] 385	[25.6] 650	[8.5] 216	[6.3] 160	[20.9] 532	[17.2] 438	[7.9] 200	170	2 x 24	
AFLD 1403	4" 300 lbs				[10.5] 266		8 x $\text{ø}23$										[5.2] 132	110		
Size		1402						1403												
Weight (lbs.)		639						639												

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.

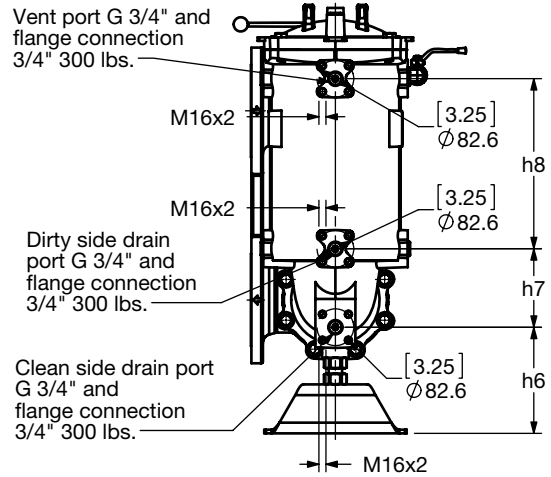
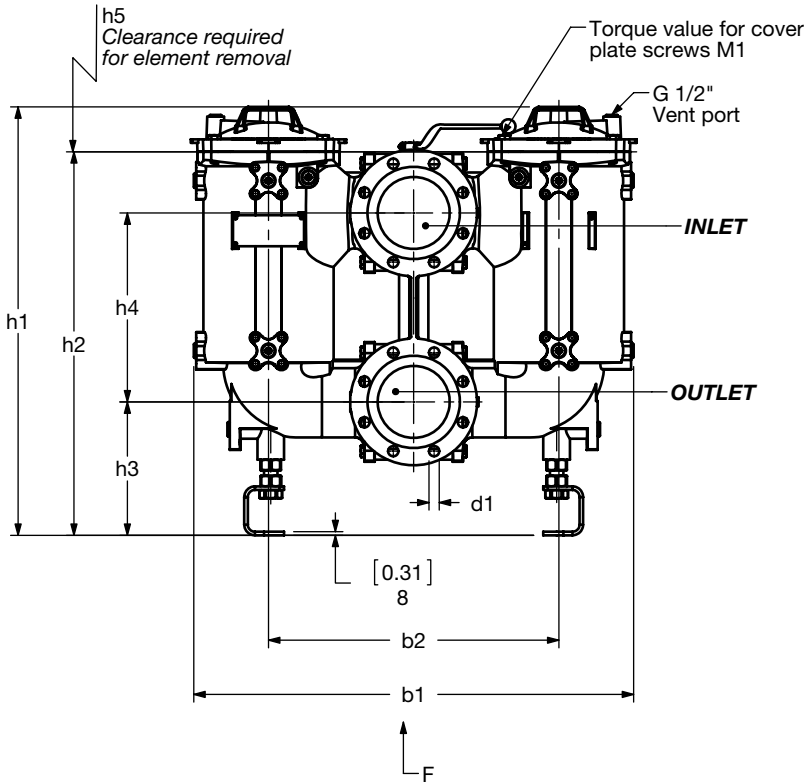
SPECIAL ORDER FILTERS - LOW PRESSURE

Dimensions

AFLD 2702 / 2703



View: F



Size	Flange Size	b1	b2	b3	b4	b5	d1	h1	h2	h3	h4	h5	h6	h7	h8	L1	L2	M1 [N/m]	Vol. of Pressure Vessel, liters
AFLD 2702	6"	[38.6]	[25.7]	[7.5]	[7.2] 184	[25.4]	8 x ø23	[38]	[34]	[11.8]	[16.7]	[19.7]	[9.4]	[7]	[15.1]	[12.5]	[7.9] 200	110	2 x 37
AFLD 2703	150 lbs	980	653	190	[9.8] 249	645		964	863	300	425	500	239	177	383	317	[5.2] 132		
Size		2702								2703									
Weight (lbs.)		794								794									

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:

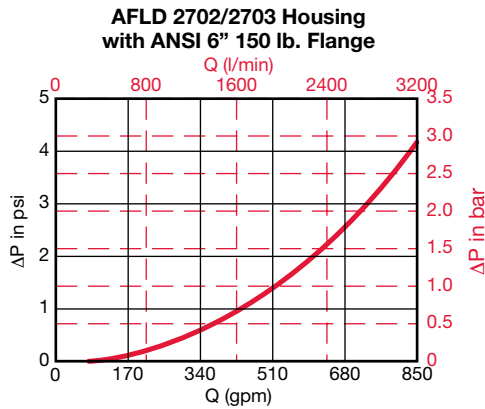
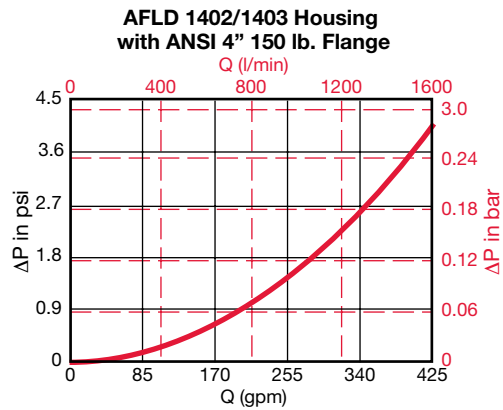
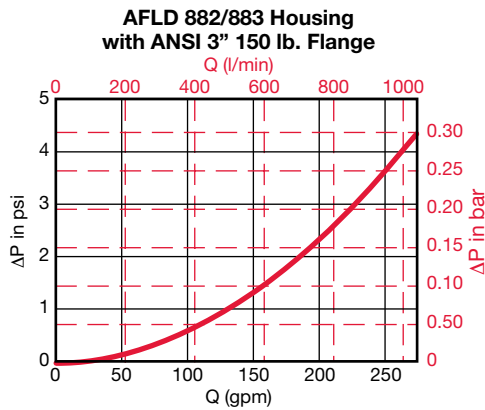
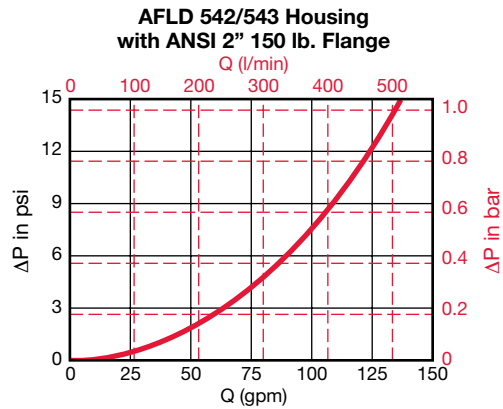
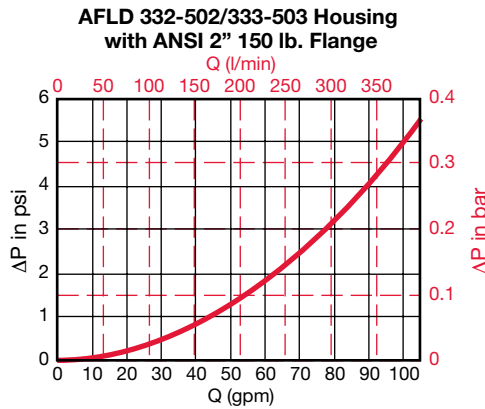
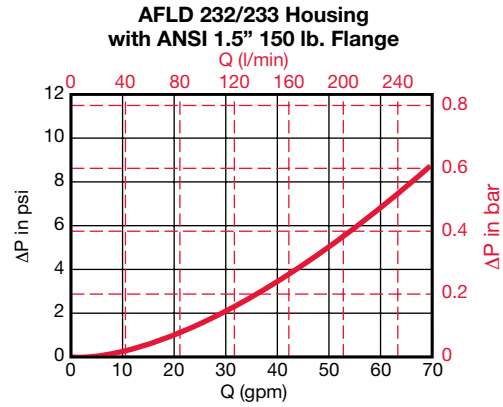
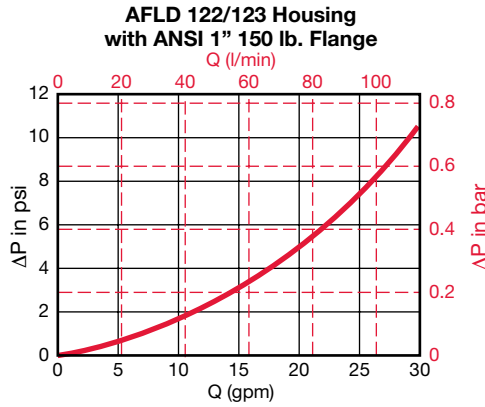
Assembly $\Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$

Housing Curve:

Pressure loss through housing is as follows:

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)



SPECIAL ORDER FILTERS - LOW PRESSURE

Required Element Per Housing

Housing Size	Element Size	Elements per Side
122 / 123	0120	1
232 / 233	0230	1
332 / 333	0330	1
502 / 503	0500	1
542 / 543	0540	1
882 / 883	0880	1
1402 / 1403	2600	1
2702 / 2703	2700	1

Element K Factors

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

Optimicron Power Size	"ON/PO" API Compliant 10 µm
0120 A XXX ON/PO	0.075
0230 A XXX ON/PO	0.037
0330 A XXX ON/PO	0.037
0500 A XXX ON/PO	0.025
0540 A XXX ON/PO	0.018
0880 A XXX ON/PO	0.008
2600 A XXX ON/PO	0.004
2700 A XXX ON/PO	0.004

