

# LF/LFM - Low Pressure High Flow Assemblies

LF flow rate to 560 lpm, 150 gpm / LFM flow rate to 16875 lpm, 4500 gpm



## APPLICATIONS

- Hydraulic and Lubrication oil
- Fuel and Fuel oil
- Rolling mill oil
- Processing liquids
- Bulk oil handling - Transfer and clean up
- Off-line systems and flushing
- Power generation
- Primary metals
- Mobile flushing systems
- Particulate and water removal
- Transfer line machining coolants
- Large gearbox filtration
- High flow Return-line filtration

## PRODUCT SPECIFICATIONS & FEATURES

Max Flow Rate Visc: 150 SUS, 32 cSt	Recommended Series
100 gpm (375 lpm)	LF Single length
150 gpm (560 lpm)	LF Double length
300 gpm (1125 lpm)	2 x LF Double parallel mount
4500 gpm (16875 lpm)	LFM multiple element series (call for sizing assistance)
<b>Operating Pressure</b>	<b>Standard 150 psi (10 bar)</b>
	Available up to 3000 psi (212 bar)
<b>Pressure Indicators</b>	
Up to 250 psi Operating	Two visual pressure gages or differential indicator available
450 psi and higher	Differential pressure Indicator required
<b>Maximum Temperature</b>	<b>Standard 250 F</b>
	Call for high temperature specs

## ASME U & UM CODE REQUIREMENTS

Standard vessels are manufactured to ASME code standards, but not certified. ASME U and UM code certification is available as an option. See table 9 under the Filter Assembly part number guide on page 2 for ordering detail. Please call for price adders when specifying Code certification.

- Carbon steel construction standard (304 & 316 stainless available).
- Duplexing option available for continuous filtration during filter element change-out.
- HP106 and HP107 element series have integral bypass valve (new bypass every time element is changed avoids bypass failure).
- Pressure gages are supplied standard for housings up to 250 psi operating (differential indicator is available). Differential pressure indicator is supplied standard for housings with operating pressure 450 psi and higher.
- Easy to service swing-lid design with eye nuts assures no lost hardware, hydraulic lift option available.
- Marine grade epoxy exterior finish for non-stainless steel assemblies
- Accepts coreless design with positive o-ring seals or industry standard 6 x 18 and 6 x 36 with gasket seals.
- Vent/bleed port standard in housing cover.
- 2" drain and cleanout port allows for quick draining and easy access for sump cleanout.
- Hy-Pro Dualglass filter element media technology validated per ISO16889 multipass and DFE (modified ISO16889) industry leading multipass testing.



FILTRATION

# HIGH PERFORMANCE FILTER ELEMENTS - THE HEART OF A FILTER

## Dynamic Filter Efficiency (DFE) Testing

Revolutionary test methods assure that DFE rated elements perform true to rating even under demanding variable flow and vibration conditions. Today's industrial and mobile hydraulic circuits require elements that deliver specified cleanliness under ALL circumstances. Wire mesh supports the media to ensure against cyclical flow fatigue, temperature, and chemical resistance failures possible in filter elements with synthetic support mesh. Contact your distributor or Hy-Pro for more information and published articles on DFE testing.

## Media Options

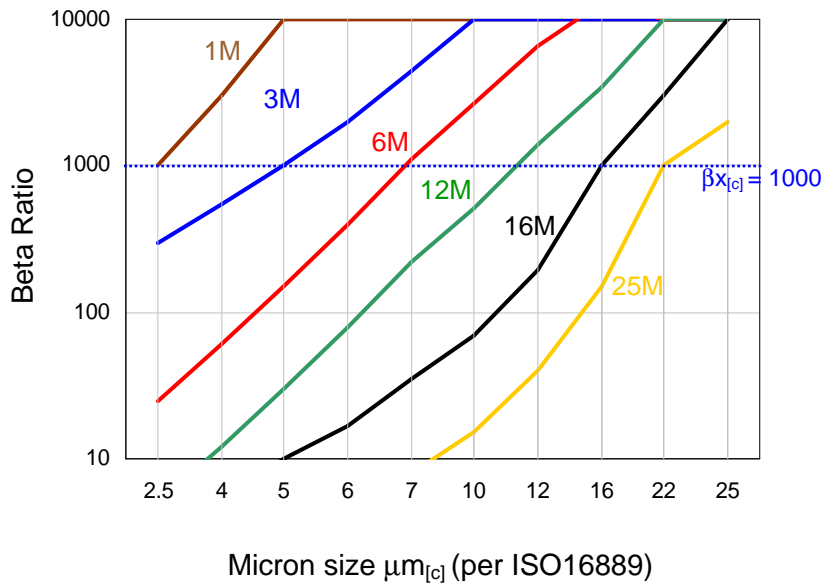
Through extensive testing we have developed media choices to handle any application. Options include G7 Dualglass, Dynafuzz (stainless fiber), and Wire mesh (stainless).

## Fluid Compatibility

Petroleum based fluids, water glycol, polyol ester, phosphate ester, high water based fluids and many other synthetics. Contact us for seal material selection assistance.

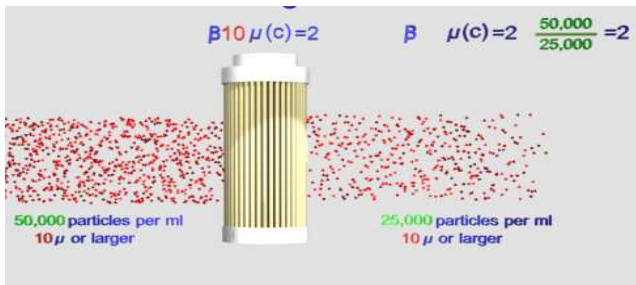
## FILTER MEDIA SPECIFICATIONS

Glass Media Code Filtration Efficiency (Beta Ratio) vs Micron Size

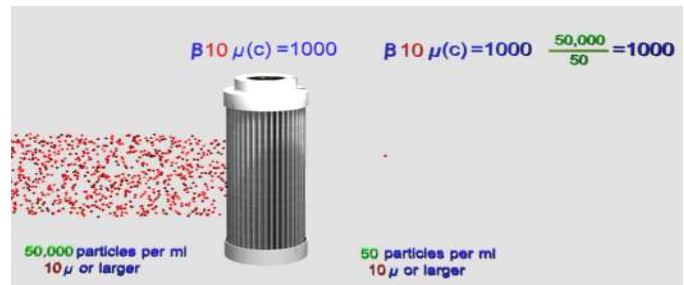


media code	media description
A	G7 Dualglass high performance media combined with water removal scrim. $\beta_{x_{[c]}} = 1000$ ( $\beta_x = 200$ )
M	G7 Dualglass our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x_{[c]}} = 1000$ ( $\beta_x = 200$ )
W	Stainless steel wire mesh media $\beta_{x_{[c]}} = 2$ ( $\beta_x = 2$ ) nominally rated

Typical cellulose media performance



Hy-Pro G7 Dualglass media performance



## FILTER ELEMENT PERFORMANCE DATA



### Elements Tested to ISO quality standards

ISO 2941	Collapse and burst resistance
ISO 2942	Fabrication and Integrity test
ISO 2948	Material compatibility with fluids
ISO 3724	Flow fatigue characteristics
ISO 3968	Pressure drop vs. flow rate
ISO 16889	Multi-pass performance testing

### Coreless Filter Element Technology

Hy-Pro coreless elements are featured in the FCL series. The elements are oversized to yield extended element life and handle a wide variety of high viscosity oils. Hy-Pro coreless elements utilize wire mesh pleat support which ensures that the pleats won't collapse or lose integrity.

## DIFFERENTIAL PRESSURE GAGES

### Differential Pressure Gauges + Switches

Differential pressure gauges with green to red display ensures proper monitoring of filter element condition. DIN connector switch can be added to any pressure gauge.

Available with terminal differential settings, visual green to red and alarm switch, at 22 psid (1.56 bar) and 45psid (3.19 bar).



### Sampling Port Isolation Valves Standard

Sample port valves are located on inlet and outlet connections to which many different types of sampling connectors.

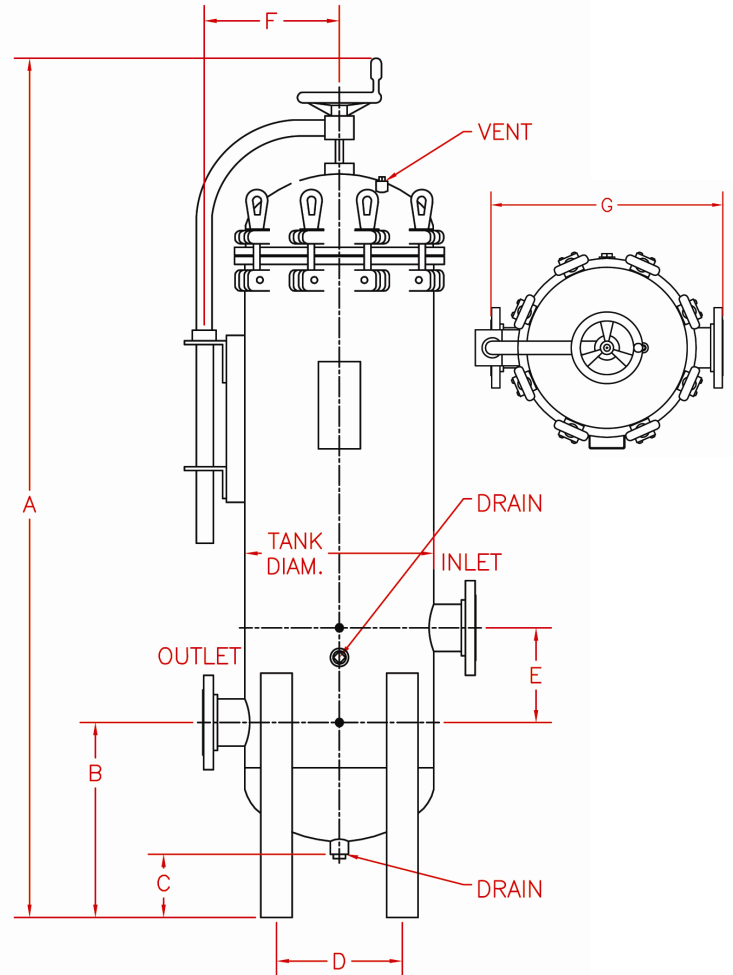
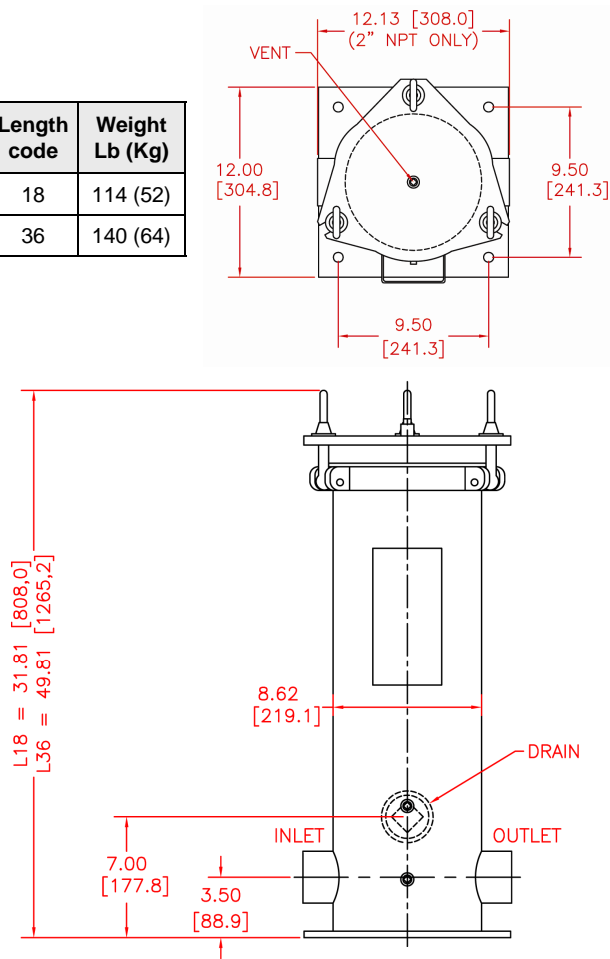


# LF - 150 PSI (10 BAR) only

250 PSI (17 BAR), 450 PSI (30 BAR)  
installation drawings next page

# LFM\* - up to 450 PSI (30 BAR)

Length code	Weight Lb (Kg)
18	114 (52)
36	140 (64)



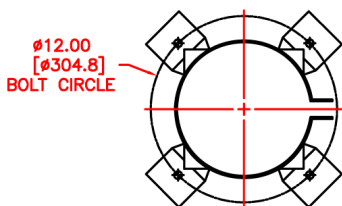
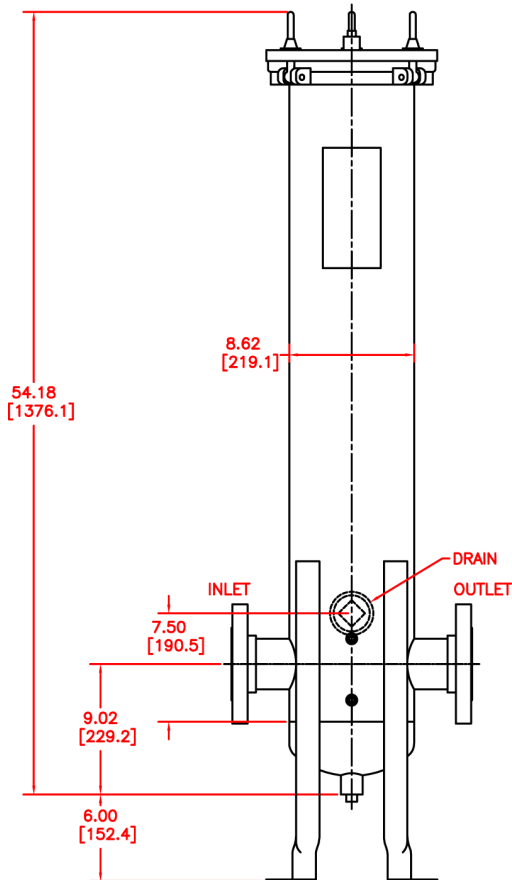
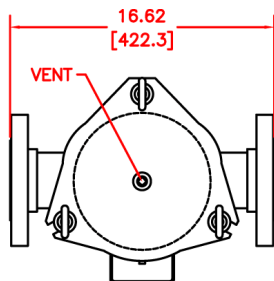
Series	Element Qty.	Tank Diam.	Port Sizes	Est. Weight	A	B	C	D*	E	F	G*
LFM3	3	16 [406,4]	2	485 Lbs	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	10.0 [254,0]	9.0 [228,6]	11.9 [301,8]	24.0 [609,6]
			3	220 Kg	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	10.0 [254,0]	9.0 [228,6]	11.9 [301,8]	24.0 [609,6]
			4		81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	10.0 [254,0]	9.0 [228,6]	11.9 [301,8]	24.0 [609,6]
LFM4	4	18 [457,2]	2	550 Lbs	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	12.0 [304,8]	9.0 [228,6]	12.9 [327,2]	26.0 [660,4]
			3	250 Kg	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	12.0 [304,8]	9.0 [228,6]	12.9 [327,2]	26.0 [660,4]
			4		81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	12.0 [304,8]	9.0 [228,6]	12.9 [327,2]	26.0 [660,4]
LFM9	9	24 [609,6]	3	645 Lbs	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	18.0 [457,2]	9.0 [228,6]	15.9 [403,4]	32.0 [812,8]
			4	293 Kg	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	18.0 [457,2]	9.0 [228,6]	15.9 [403,4]	32.0 [812,8]
			6		81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	18.0 [457,2]	9.0 [228,6]	15.9 [403,4]	32.0 [812,8]
LFM14	14	30 [762]	3	710 Lbs	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	24.0 [609,6]	9.0 [228,6]	18.9 [479,6]	38.0 [965,2]
			4	323 Kg	81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	24.0 [609,6]	9.0 [228,6]	18.9 [479,6]	38.0 [965,2]
			6		81.9 [2079,6]	18.5 [470,8]	6.0 [152,4]	24.0 [609,6]	9.0 [228,6]	18.9 [479,6]	38.0 [965,2]
LFM22	22	36 [914,4]	4	900 Lbs	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	30.0 [762,0]	15.0 [381,0]	21.9 [555,8]	44.0 [1117,6]
			6	410 Kg	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	30.0 [762,0]	15.0 [381,0]	21.9 [555,8]	44.0 [1117,6]
			8		81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	30.0 [762,0]	15.0 [381,0]	21.9 [555,8]	44.0 [1117,6]
LFM31	31	42 [1067]	6	2080 Lbs	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	36.0 [914,4]	15.0 [381,0]	24.9 [632,0]	50.0 [1270,0]
			8	945 Kg	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	36.0 [914,4]	15.0 [381,0]	24.9 [632,0]	50.0 [1270,0]
			10		81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	36.0 [914,4]	15.0 [381,0]	24.9 [632,0]	50.0 [1270,0]
LFM38	38	48 [1219]	8	2450 Lbs	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	42.0 [1066,8]	15.0 [381,0]	27.9 [708,2]	56.0 [1422,4]
			10	1115 Kg	81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	42.0 [1066,8]	15.0 [381,0]	27.9 [708,2]	56.0 [1422,4]
			12		81.9 [2079,6]	24.5 [623,2]	6.0 [152,4]	42.0 [1066,8]	15.0 [381,0]	27.9 [708,2]	56.0 [1422,4]



FILTRATION

LF - 250 PSI (17 BAR)

Length code	Weight Lb (Kg)
18	138 (62)
36	163 (74)



LF - 450 PSI (30 BAR)

Length code	Weight Lb (Kg)
18	195 (89)
36	230 (104)

