

TFR In-Tank Filter Assemblies



Featuring Hy-Pro G7 Dualglass high performance DFE rated filter element technology

APPLICATIONS

- Hy-Pro Low pressure TFR series filters are ideal for installation on the return line to remove contaminant ingested or generated by the system.
- Power units
- Mobile equipment
- Compact alternative to spin-on filters

FEATURES, BENEFITS, ADVANTAGES

DFE rated elements	G7 Dualglass elements are DFE rated to assure performance even when exposed to the toughest conditions that hydraulic systems can generate (See DFE for details).
Low housing pressure drop	Unique internal flow paths provide low resistance to flow. (Low pressure drop)
Inside~out flow	Dirty oil is trapped during element service. Avoid cross contamination common with outside~in flow filters.
Tank mounted	Most of the assembly is inside tank. Compact alternative to spin-ons
Integral element bypass valve	Valve is part of the element. New valve with every element. No risk of bypass valve spring fatigue failure.
Top loading	Minimize mess and oil loss. Clean and easy to service.
Universal mounting pattern	Accommodates North American and European mounting patterns
Optional fill port	Fill port option enables QD fluid fill without opening the housing
Twist open bolt cover	Keyways on cover require only loosening cover bolts during service. No lost bolts.

PRODUCT SPECIFICATIONS

Operating Pressure	150 psi, 10 bar max
Flow rate by series	TFR1 (L code 11) 35 gpm, 131 lpm TFR2 (L code 18) 120 gpm, 140 lpm TFR3 (L code 34) 200 gpm, 750 lpm
Design safety factor	2.5:1
Element collapse	100 psid (7 bar)
Assembly material	Head: Cast aluminum (impregnated) Diffuser: Plated steel
Fluid compatibility (ISO 2948)	Compatible with petroleum, based oils, specified water based, oil/water emulsion, and specified synthetic fluids with Fluorocarbon or EPR seals (call for compatibility)
Bypass setting	25 psid (1.77 bar) standard see reverse for other options
Weight (w/element)	TFR1-6" 3.4 Lbs, 1.53 kg TFR1-8" 3.6 Lbs, 1.62 kg TFR1-11" 4.0 Lbs, 1.80 kg TFR2-8" 10.0 Lbs, 4.50 kg TFR2-11" 10.5 Lbs, 4.64 kg TFR2-18" 12.0 Lbs, 5.40 kg TFR3-15" 20.0 Lbs, 9.00 kg TFR3-19" 26.5 Lbs, 11.93 kg TFR3-34" 38.0 Lbs, 17.10 kg
Temperature rating	Buna: -40°F (-40°C) to 225°F (107°C) Viton: -15°F (-26°C) to 275°F (135°C)

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

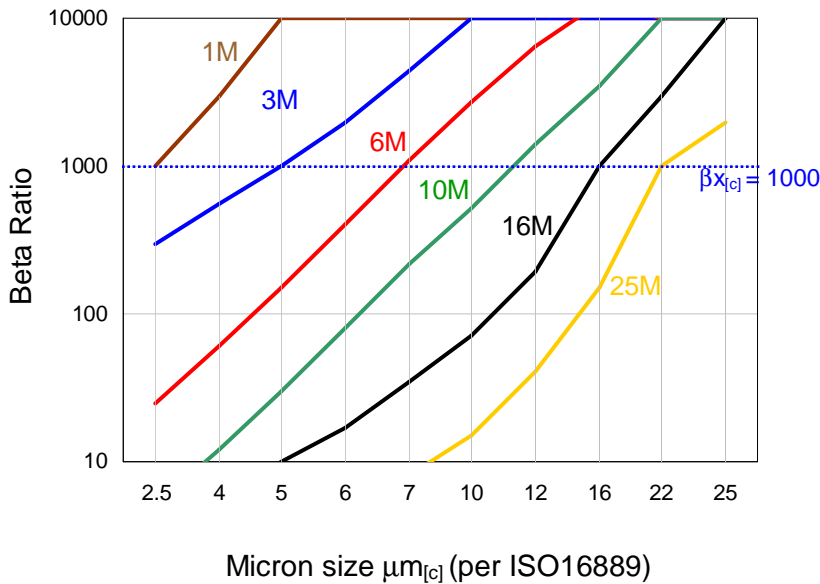
Through extensive testing we have developed media choices to handle any application. Options include G7 Dualglass, Dynafuzz (stainless fiber), and Wire mesh (stainless).

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.

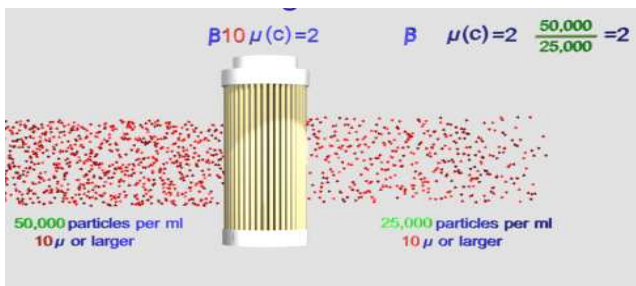
FILTER MEDIA SPECIFICATIONS

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

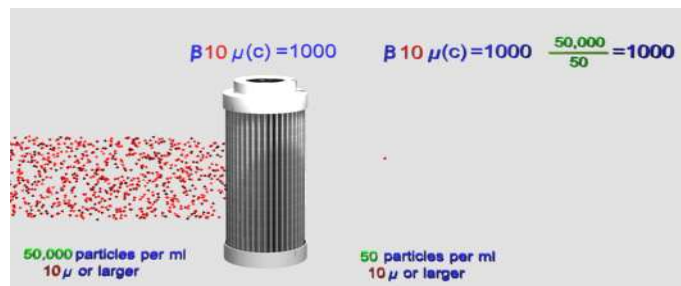


media code	media description
A	G7 Dualglass high performance media combined with water removal scrim. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)
M	G7 Dualglass our latest generation of DFE rated, high performance glass media for all hydraulic & lubrication fluids. $\beta_{x[c]} = 1000$ ($\beta_x = 200$)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

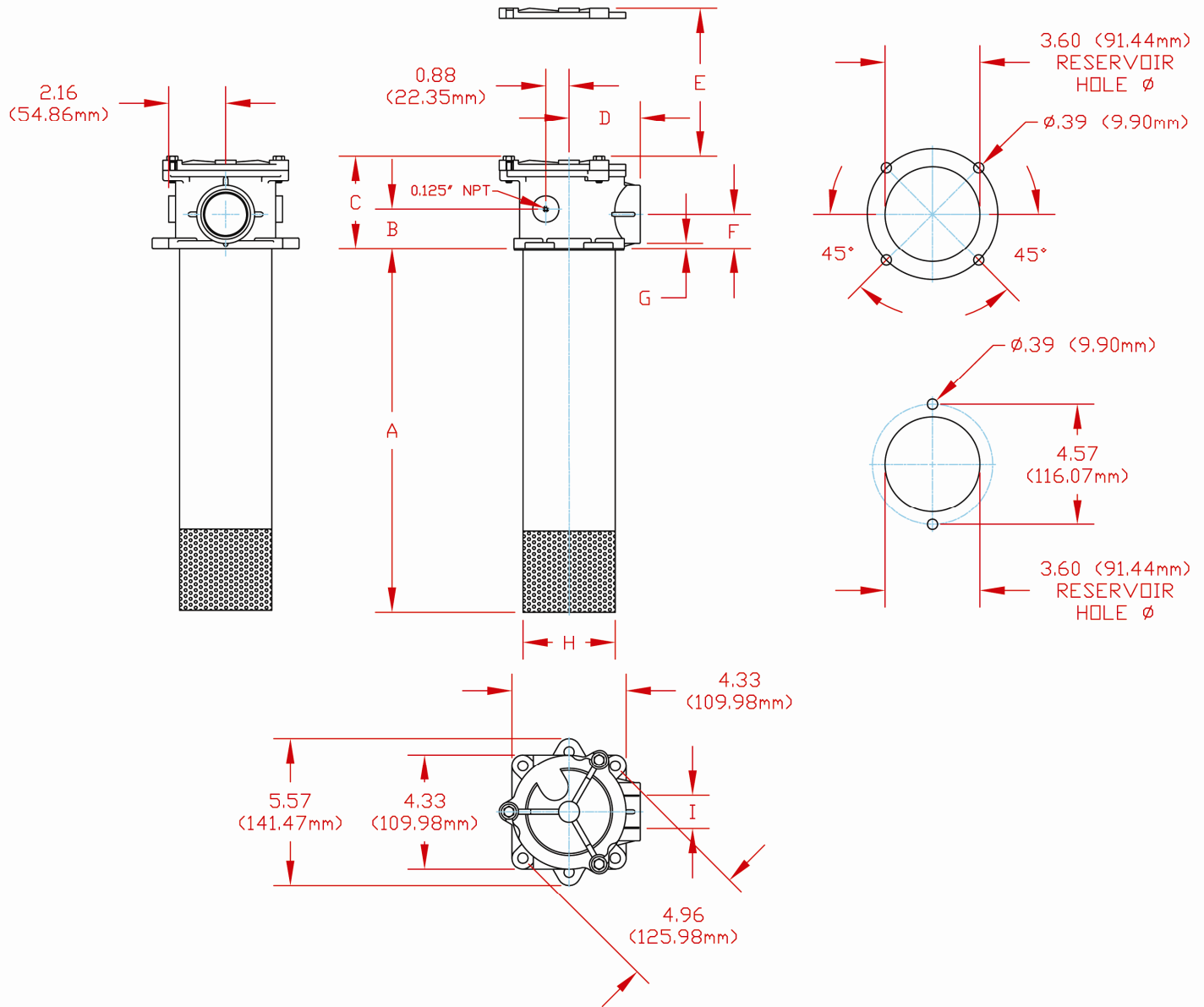
Typical cellulose media performance



Hy-Pro G7 Dualglass media performance

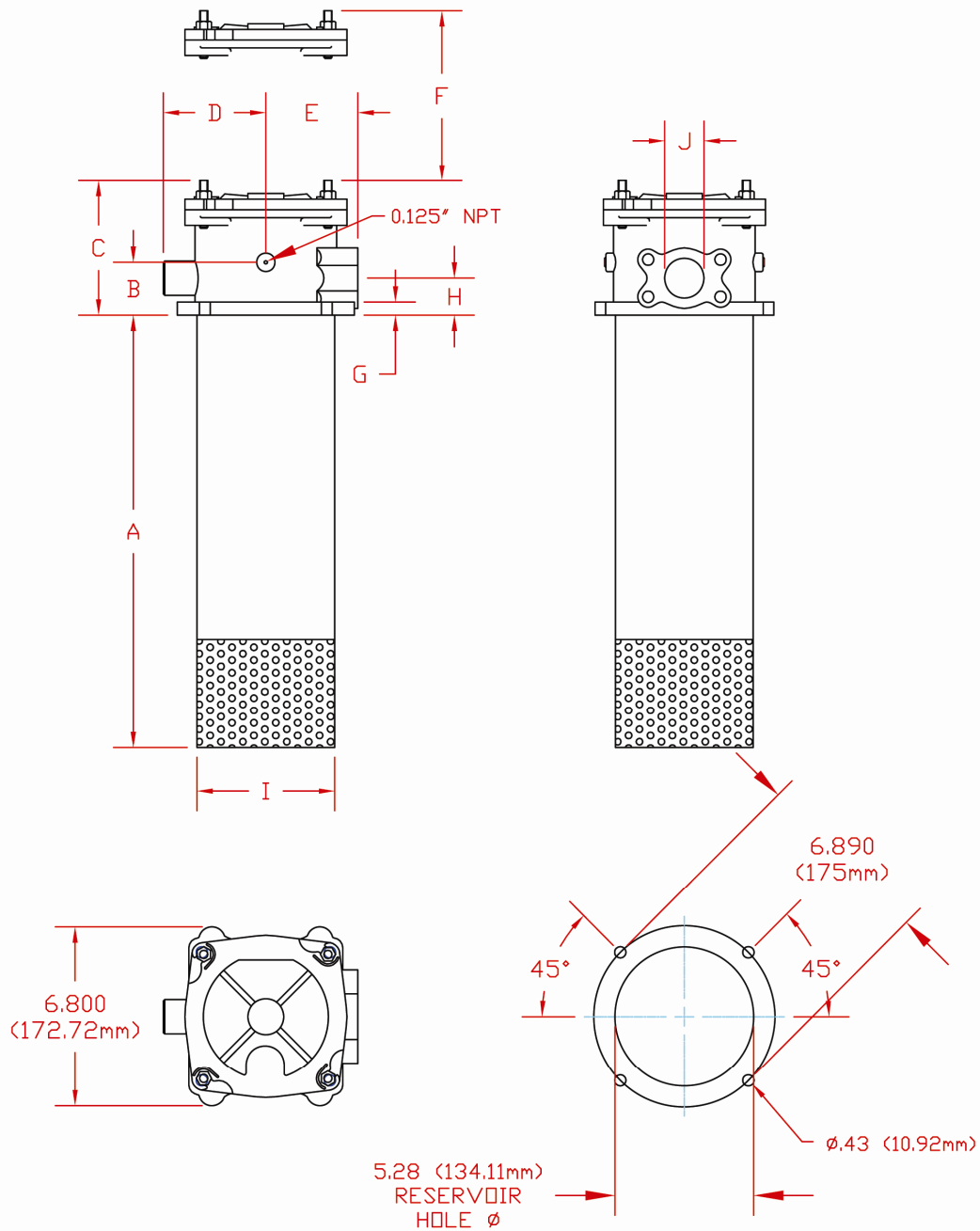


TFR1 INSTALLATION DRAWING



Length code (table 4)	Dimension IN (MM)									
	A	B	C	D	E	F	G	H	I	J
6	7.80 (198)	1.50 (38,1)	3.55 (90,2)	2.68 (68)	11.85 (301)	1.1 (28) or 1.26 (32)	0.24 (6)	3.50 (89)	1" or 1 1/4"	4.96 (126)
8	9.85 (250,2)	1.50 (38,1)	3.55 (90,2)	2.68 (68)	13.80 (350,5)	1.1 (28) ~ 1.26 (32)	0.24 (6)	3.50 (89)	1" or 1 1/4"	4.96 (126)
11	13.8 (350,5)	1.50 (38,1)	3.55 (90,2)	2.68 (68)	18.50 (470)	1.1 (28) ~ 1.26 (32)	0.24 (6)	3.50 (89)	1" or 1 1/4"	4.96 (126)

TFR2 INSTALLATION DRAWING

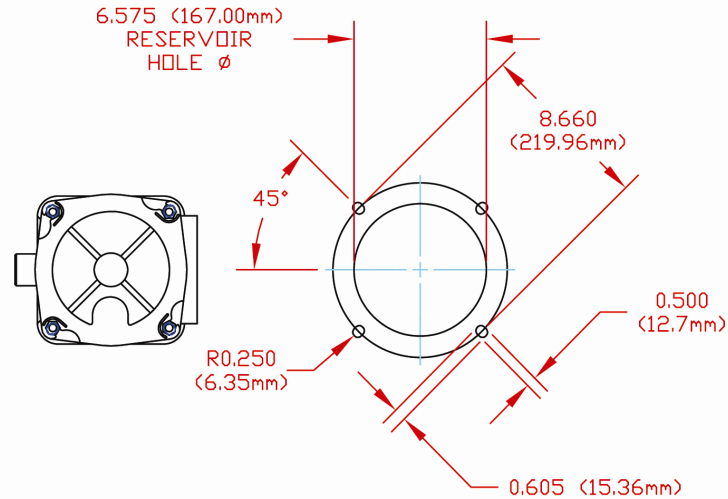
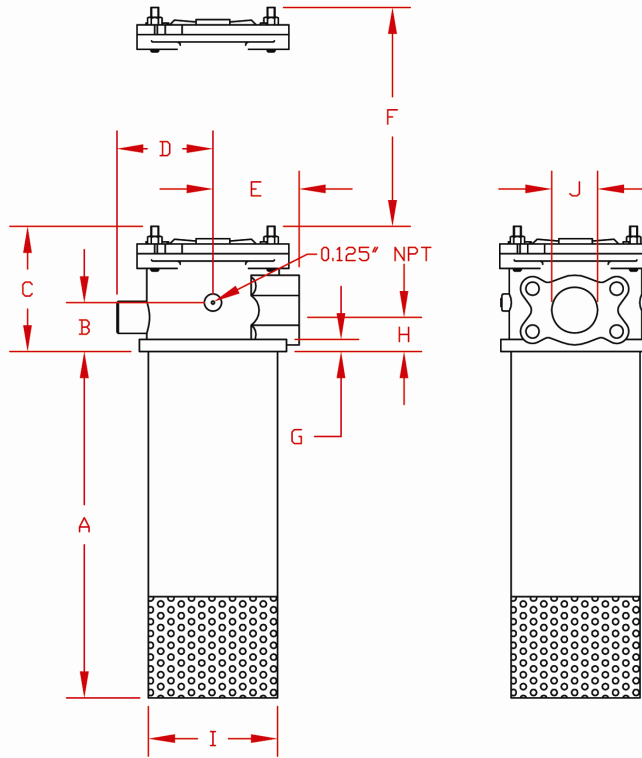


Length code (table 4)	Dimension IN (MM)									
	A	B	C	D	E	F	G	H	I	J
8	9.85 (250)	1.97 (50)	5.20 (130)	3.94 (100)	3.54 (90)	9.25 (235) EL removal	0.47 (12)	1.42 (36)	5.24 (136)	1 1/2" port
11	12.6 (320)	1.97 (50)	5.20 (130)	3.94 (100)	3.54 (90)	12.0 (305) EL removal	0.47 (12)	1.42 (36)	5.24 (136)	1 1/2" port
18	20.7 (527)	1.97 (50)	5.20 (130)	3.94 (100)	3.54 (90)	18.7 (475) EL removal	0.47 (12)	1.42 (36)	5.24 (136)	1 1/2" port



FILTRATION

TFR3 INSTALLATION DRAWING



Length code (table 4)	Dimension IN (MM)									
	A	B	C	D	E	F	G	H	I	J
15	18.5 (469)	2.16 (55)	6.10 (155)	4.50 (114)	4.33 (110)	17.19 (437)	0.55 (14)	2.16 (55)	6.52 (165,5)	2.5" Code 61
19	22.0 (560)	2.16 (55)	6.10 (155)	4.50 (114)	4.33 (110)	20.5 (520)	0.55 (14)	2.16 (55)	6.52 (165,5)	2.5" Code 61
34	37.0 (940)	2.16 (55)	6.10 (155)	4.50 (114)	4.33 (110)	35.5 (901)	0.55 (14)	2.16 (55)	6.52 (165,5)	2.5" Code 61