

Applications



FLEET / BULK FUEL TRANSFER



BULK FUEL UNLOADING



PROTECTION FOR HIGH-FLOW FUEL INJECTION SYSTEMS



BULK TANK KIDNEY LOOP / RECIRCULATION

100 gpm
380 L/min

150 psi
10.3 bar

PFFH

Features and Benefits

- Diesel fuel particulate filter for dispensing, transfer or polishing filtration applications
- Uses patented PureFuels® elements
- All-aluminum filter housing is fully compatible with diesel and biodiesel
- Minimal clearance needed for element service, ideal for enclosure installations
- Cartridge style element improves performance and reduces waste compared to spin-on solutions
- Port to port and mounting pattern dimensions match standard spin-on assembly



Model No. of filter in photograph is:
PHF-150NPT-100G-1M

Flow Rating: Up to 100 gpm (380 L/min)

Max. Operating Pressure: 150 psi (10.3 bar)

Min. Yield: 2600 psi (179 bar)

Temp. Range: -20°F to 225°F (-29°C to 107°C)

Bypass Setting: Cracking: 40 psi (2.8 bar)

Porting Head: Cast Aluminum, Anodized

Element Case: Aluminum, Anodized

Weight of GHPF: 7.64 lbs. (3.47 kg)

Element Change Clearance: 2" (51 mm)

Filter Housing
Specifi

Markets



INDUSTRIAL



MOBILE VEHICLES



MARINE



MINING TECHNOLOGY



AGRICULTURE



POWER GENERATION



COMMON RAIL INJECTOR SYSTEMS



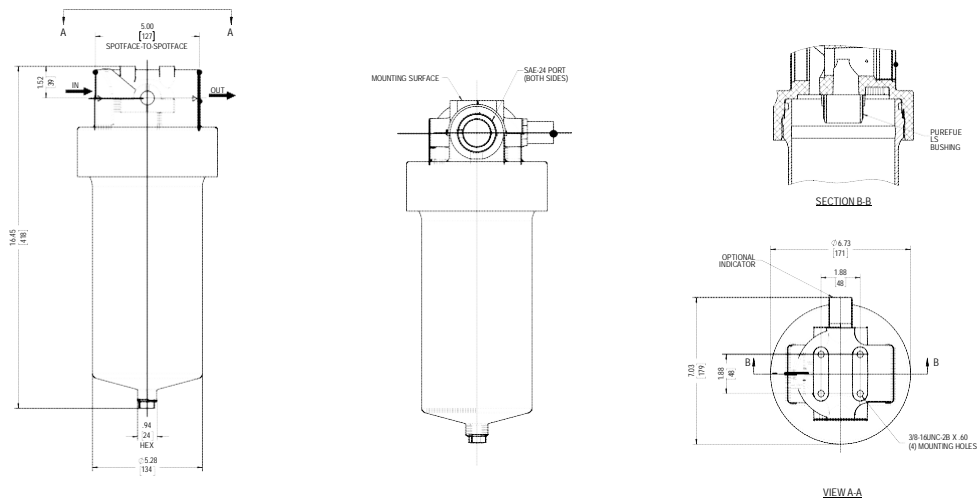
FLEET



RAILROAD



BULK FUEL FILTRATION



Metric dimensions in ().
 Dimensions shown are inches [millimeters] for general information and overall envelope size only.
 For complete dimensions please contact Lakeside Petroleum to request a certified print.

Element Performance Information

Media Type	Element	Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
		$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
Traditional	PF11GGZ1V	<4.0	4.5
	PF11GGZ3V	4.6	5.8
Excellement®	PF11GGZ5V	5.9	7.8
Z-Media®	PF11GGZ10V	11.4	13.2
	PF11GGZ25V	15.8	17.5

Dirt Holding Capacity

Media Type	Element	DHC (gm)
Traditional	PF11GGZ1V	172
	PF11GGZ3V	148
Excellement®	PF11GGZ5V	174
Z-Media®	PF11GGZ10V	165
	PF11GGZ25V	164

Element Collapse Rating: 150 psid (10.3 bar) for standard and non-bypassing elements

Flow Direction: Outside In

Element Nominal

Dimensions: PF11GG: 5" (127 mm) O.D. x 11" (305 mm) long

Diesel Fuel and Biodiesel (B100).
For other Distillate Petroleum, Contact Factory.

Fluid Compatibility

Element Selection

Based on Flow Rate

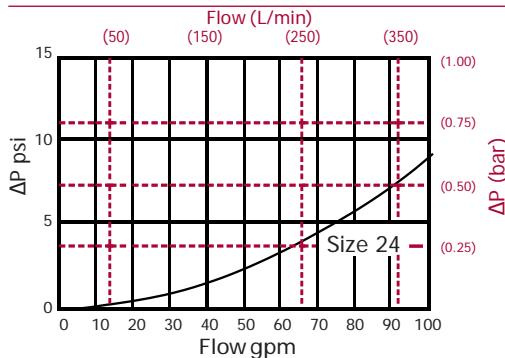


Pressure	Series	Element Part No.	Element selections are predicated on the use of 37 SUS (3 cSt) Diesel Fuel and Biodiesel (B100), SAE-24 porting, and a 40 psi (2.8 bar) bypass valve.					
	Z-Media®	PF11GGZ1V	PF11GGZ1V					
		PF11GGZ3V	PF11GGZ3V					
		PF11GGZ5V	PF11GGZ5V					
		PF11GGZ10V	PF11GGZ10V					
		PF11GGZ25V	PF11GGZ25V					
Flow		gpm	0	20	40	60	80	100
		(L/min)	0	50	150	250	380	

Shown above are the elements most commonly used in this housing.

$\Delta P_{\text{housing}}$

GH $\Delta P_{\text{housing}}$ for fluids with sp gr = 0.86:



$\Delta P_{\text{element}}$

$\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$

El. ΔP factors @ 37 SUS (3 cSt):

PF11GGZ1V 0.07 PF11GGZ3V 0.05
PF11GGZ5V 0.05 PF11GGZ10V 0.05
PF11GGZ25V 0.04

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor: Divide viscosity by 37 SUS (3 cSt).

C/F = Contact factory.

Pressure Drop Information

Based on Flow Rate and Viscosity

sp gr = specific gravity

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

Notes

$$\Delta P_{\text{total}} = \Delta P_{\text{filter}} + \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

Exercise:

Determine ΔP at 80 gpm (303 L/min) for PHF-150NPT-100G-1M using 37 SUS (3 cSt) fl

Solution:

$$\Delta P_{\text{housing}} = 6.0 \text{ psi [0.41 bar]}$$

$$\Delta P_{\text{element}} = 80 \times 0.05 \times (37 \div 37) = 4.0 \text{ psi}$$

or

$$= [303 \times (0.05 \div 54.9) \times (3 \div 3)] = 0.28 \text{ bar}$$

$$\Delta P_{\text{total}} = 6.0 + 4.0 = 10.0 \text{ psi}$$

or

$$= [0.41 + 0.28 = 0.69 \text{ bar}]$$

Filter Model Number Selection

Highlighted product eligible for



PureFuels

How to Build a Valid Model Number for a Lakeside PFFH:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
GHPF									

Example: NOTE: One option per box

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8	BOX 9	BOX 10
PFFH	11GG	Z	3	V		P24	D5	R	
									= PFFH11GGZ3-VS24D5

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Element Length & Series	Element Media	Micron Rating	Element Seal Material
PFFH	11GG	Z = Excellement® Z-Media® (synthetic)	1 = (1 µm, Z media) 3 = (3 µm, Z media) 5 = (5 µm, Z media) 10 = (10 µm, Z media) 25 = (25 µm, Z media)	V = Viton®
BOX 6	BOX 7	BOX 8		
Bypass Setting	Inlet Port	Dirt Alarm® Options		
Omit = 40 psid	S24 = SAE-24 P24 = 1.5" NPTF	Visual	D5 = Visual pop-up w/manual reset	
BOX 9	BOX 10			
Indicator Orientation	Options			
R = Right Side L = Left Side	Omit = None U = Downstream Test Point			

NOTES:

- Box 2. Replacement element part numbers are a combination of Boxes 2, 3, 4 and 5.
- Box 9. As viewed in the direction of the fluid flow from inlet to outlet.