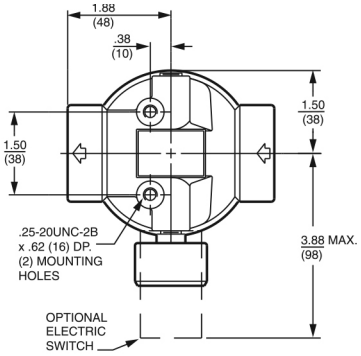
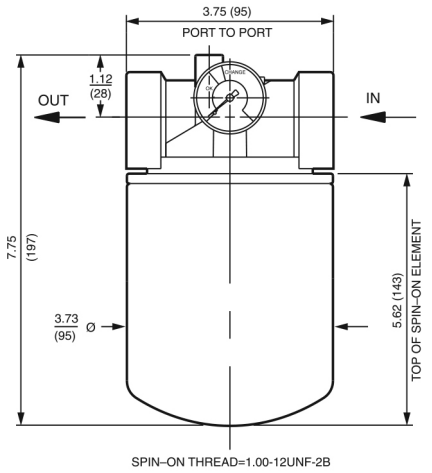
Inline Spin-On Fuel Filter

ISF 20





Metric dimensions in ( ).

Model	GPM	LPM	Standard Micron Rating
ISF 20	20	75	10

20 gpm
75 lpm
100 psi
7 bar

Features and Benefits

- Spin-on with full-ported die-cast aluminum head for minimal pressure drop
- Standard 3/4" NPTF porting
- Spin-on thread = 1.00-12UN-2B
- Visual gauge alarm for dirt monitoring
- Small profile for use in limited space
- 6" element length
- 10 micron element is standard. 25 micron also available.

Filter Housing Specifications

Flow Rating:	Up to 20 gpm (75 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	100 psi (7 bar)
Min. Yield Pressure:	150 psi (10 bar)
Rated Fatigue Pressure:	Contact factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 30 psi (2 bar) Full Flow: 36 psi (2 bar)
Porting Head & Cap: Element Case:	Die Cast Aluminum Steel
Weight:	1.8 lbs. (0.8 kg)
Element Model:	E-PSFE-10 (10 micron), E-PSFE-25 (25 micron)
Element Change Clearance:	2.50" (65 mm)

Element Performance Information

		Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171	
Element	Micron Rating	$ß_x \geq 75$	$ß_x \geq 100$	$ß_x \geq 200$	$ß_x(c) \geq 200$	$ß_x(c) \geq 1000$
E-PSFE-10	10	7.4	8.2	10.0	8.0	10.0
E-PSFE-25	25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

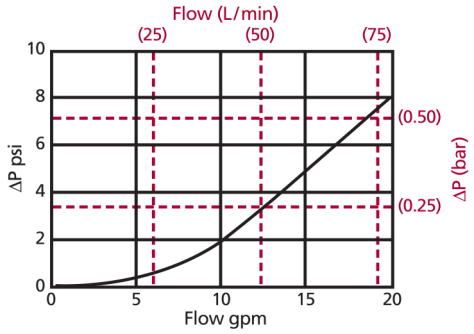
Element	DHC (gm)
E-PSFE-10	n/a
E-PSFE-25	n/a

Element Collapse Rating: 100 psid (7 bar)
Flow Direction: Outside In
Element Nominal Dimensions: 3.75″ (95 mm) O.D. x 5.5" (140 mm) long

Pressure Drop Information Based on Flow Rate and Viscosity

$\Delta P_{housing}$

ISF 20 $\Delta P_{housing}$ for fluids with sp gr = 0.86:



$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 150 SUS (32 cSt):

E-PSFE-1	.17
E-PSFE-2	.17
E-PSFE-3	.17
E-PSFE-5	.17
E-PSFE-10	.17
E-PSFE-25	.15

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

Viscosity factor: Divide viscosity by 150 SUS (32 cSt).

sp gr = specific gravity

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

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

Exercise:

Determine ΔP at 10 gpm (38 L/min) for ISF 20 using 200 SUS (44 cSt) fluid.

Solution:

$\Delta P_{housing}$ = 2.0 psi [.18 bar]

$\Delta P_{element}$ = 10 x .17 x (200÷150) = 2.3 psi
or
= [38 x (.17÷54.9) x (44÷32) = .16 bar]

ΔP_{total} = 2.0 + 2.3 = 4.3 psi
or
= [.18 + .16 = .34 bar]

Element Selection Based on Flow Rate

Pressure	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum-based fluid and a 30 psi (2.1 bar) bypass valve.
To 100 psi (7 bar)	E-PSFE-1	E-PSFE-1
	E-PSFE-2	E-PSFE-2
	E-PSFE-3	E-PSFE-3
	E-PSFE-5	E-PSFE-5
	E-PSFE-10	E-PSFE-10
	E-PSFE-25	E-PSFE-25
Flow	gpm	0 — 10 — 20
	(L/min)	0 — 25 — 50 — 75