

"PUMP CARE" - Suction filters

SF



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CLOGGING INDICATORS

PRESSURE DROP (Δp) CURVES

CROSS FUNCTIONAL VIEW

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DIMENSIONS OF THE FILTER ELEMENT

"PUMP CARE" SUCTION FILTERS

SF

COMPATIBILITY

Full with fluids:
 HH-HL-HM-HR-HV-HG
 (according to ISO 6743/4).
 For fluids different than the above mentioned,
 please contact our Sales Department.

PRESSURE

Max working	175 psi (12 bar)
Test	220 psi (15 bar)
Bursting	360 psi (25 bar)
Collapse, differential for the filter element	60 psi (4 bar)

MATERIALS

Head	Aluminium alloy
Spin-on cartridge	Steel
Bypass valve	Polyamide
Seals	Nitrile NBR (FKM - on request fluoroelastomer)
Indicator housing	Brass

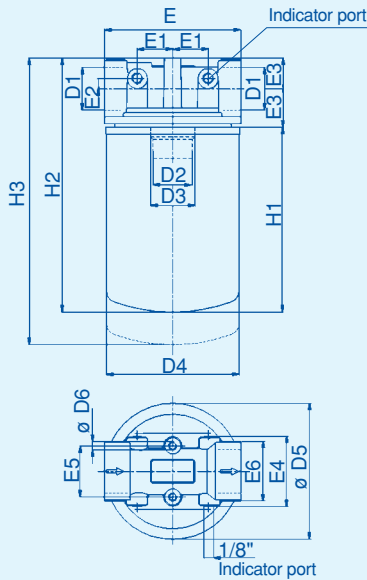
BYPASS VALVE

Setting	5 psi (0.35 bar) +/-10%
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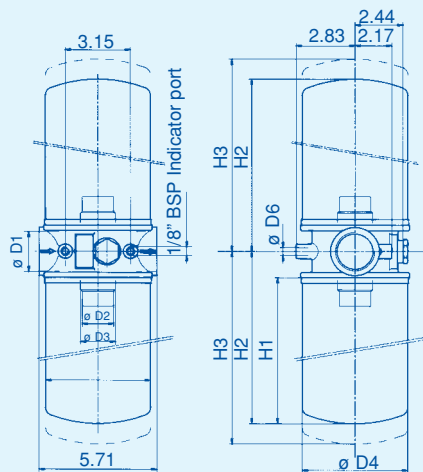
WORKING TEMPERATURE

From -15° to +230° F

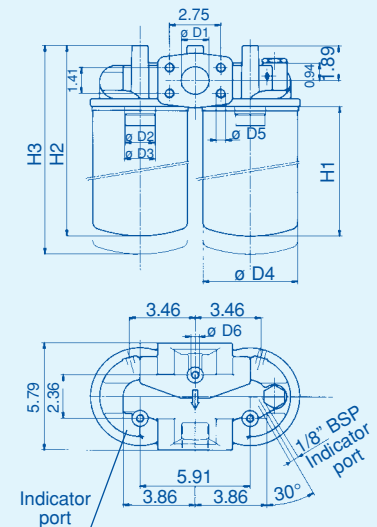
FSE 1+ & FSE 2+



FSE 3+



FSE 4+



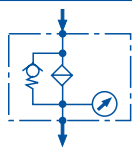
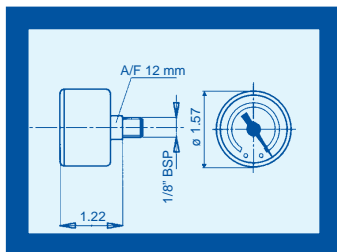
	D1	D2	D3	D4	D5	D6	E	E1	E2	E3	E4	E5	E6	H1	H2	H3	Weight lbs
FSF11	3/4"	1" 12 UNF	=	3.78	3.78	1/4" UNC	3.74	0.87	0.91	0.43	2.36	1.50	1.26	5.75	7.40	8.19	2.5
FSF12	3/4"	1" 12 UNF	=	3.78	3.78	1/4" UNC	3.74	0.87	0.91	0.43	2.36	1.50	1.26	7.52	9.21	10.00	3.2
FSF21	1 1/4"	1 1/2" 16-UN	1 1/4" BSP	5.08	5.28	1/4" UNC	5.24	1.40	1.18	0.24	3.70	1.97	2.13	6.93	9.49	10.67	3.2
FSF22	1 1/4"	1 1/2" 16-UN	1 1/4" BSP	5.08	5.28	1/4" UNC	5.24	1.40	1.18	0.24	3.70	1.97	2.13	10.71	13.19	14.37	4.0
FSF31	1 1/2"	1 1/2" 16-UN	1 1/4" BSP	5.08	-	5/16" UNC	-	-	-	-	-	-	-	6.93	8.23	9.41	5.9
FSF32	1 1/2"	1 1/2" 16-UN	1 1/4" BSP	5.08	-	5/16" UNC	-	-	-	-	-	-	-	10.71	12.01	13.19	7.6
FSF41	1 1/2"	1 1/2" 16-UN	1 1/4" BSP	5.08	12" UNC	5/16" UNC	-	-	-	-	-	-	-	6.93	10.31	15.24	8.5
FSF42	1 1/2"	1 1/2" 16-UN	1 1/4" BSP	5.08	12" UNC	5/16" UNC	-	-	-	-	-	-	-	10.71	14.06	15.43	10.1

ORDERING AND OPTIONS CHART

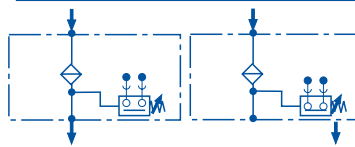
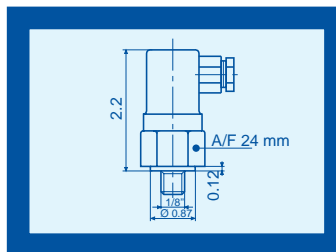
F FILTER COMPLETE										ELEMENTO		E			
S	F	FAMILY NOMINAL SIZE & LENGTH								FAMILY SIZE & LENGTH		S	F		
		11	12	21	22	31	32	41	42						
PORT TYPE															
N = NPT thread		N	N	N	N	N	N	N	N						
D = SAE flange 3000 psi, UNC screws		=	=	=	=	=	=	=	D	D					
PORT SIZE															
06 = 3/4		06	06	=	=	=	=	=	=						
10 = 1" 1/4		=	=	10	10	=	=	=	=						
12 = 1" 1/2		=	=	=	=	12	12	12	12						
BYPASS VALVE															
W = without		W	W	W	W	W	W	W	W						
A = 5 psi (0.35 bar)		A	A	A	A	A	A	A	A						
SEALS										SEALS					
N = nitrile NBR		N	N	N	N	N	N	N	N	N	N	N	N	N	N
F = FKM Fluoroelastomer		F	F	F	F	F	F	F	F	F	F	F	F	F	F
FILTER MEDIA										FILTER MEDIA					
CC = cellulose 10 μ β>2		CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
CD = cellulose 25 μ β>2		CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD
ME = metal wire mesh 60 μ		ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME
CLOGGING INDICATOR															
06 = 1/8" ports, plugged		06	06	06	06	06	06	06	06	06	06	06	06	06	06
10 = vacuum gauge, bottom connection		10	10	10	10	10	10	10	10	10	10	10	10	10	10
90 = vacuum switch, N.O. contacts		90	90	90	90	90	90	90	90	90	90	90	90	90	90
91 = SPDT, vacuum switch		91	91	91	91	91	91	91	91	91	91	91	91	91	91
92 = vacuum switch, N.C. contacts		92	92	92	92	92	92	92	92	92	92	92	92	92	92
X ACCESSORIES															
X = no accessory available		X	X	X	X	X	X	X	X	X	X	X	X	X	X

NOTE:
 ESF31+++ = nr. 2 x ESF21+++
 ESF32+++ = nr. 2 x ESF22+++
 ESF41+++ = nr. 2 x ESF21+++
 ESF42+++ = nr. 2 x ESF22+++

CLOGGING INDICATORS

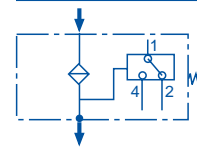
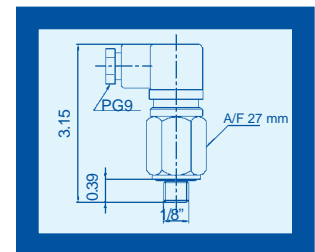


Series 10:
vacuum gauge



Series 90 (N.O. contacts)
Series 92 (N.C. contacts):

vacuum switch max voltage 220 Vca 50-60 Hz
 max current 0.5A resistive, 0.25A inductive
 switching power 100VA
 setting 4 psi (0.3 bar)



Series 91:

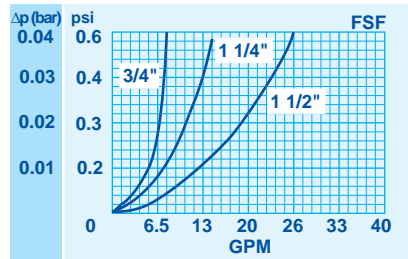
SPDT, vacuum switch
 max voltage 250V - 50Hz
 max current 6A resistive, 1A inductive
 protection IP65
 setting 3 psi (0.2 bar)

PRESSURE DROP (Δp) CURVES

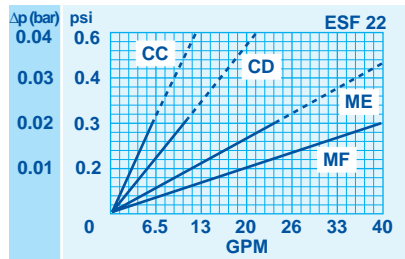
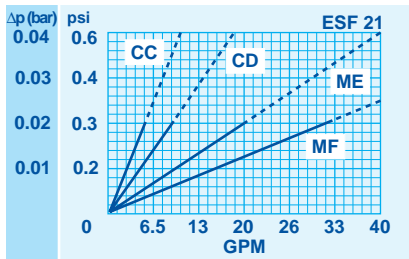
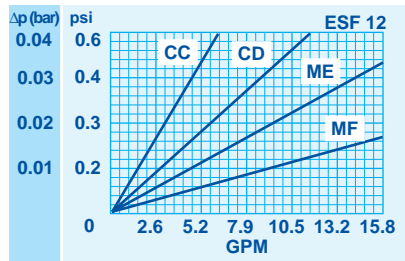
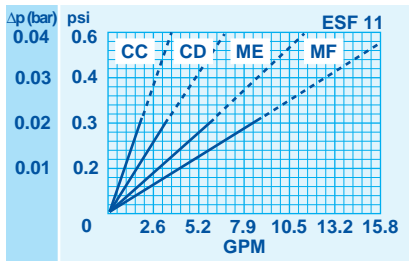
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the filter Housing and of the Clean Filter Element corresponding to the

considered Flow Rate and it must be lower than 0.4 psi (0.03 bar).

FILTER HOUSING PRESSURE DROP (mainly depending on the port size)



CLEAN FILTER ELEMENT PRESSURE DROP (depending both on the internal diameter of the element and on the filter media)



FSF3+ and FSF4+ filters use double element canisters. The Assembly Pressure Drop is therefore determined by adding the Housing Pressure Drop at the real flow rate and half the pressure drop of the ESF2+ element.

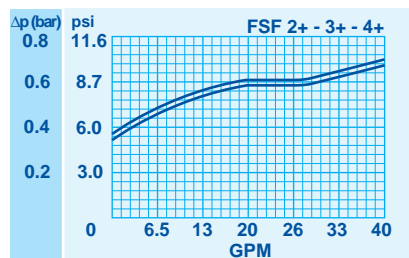
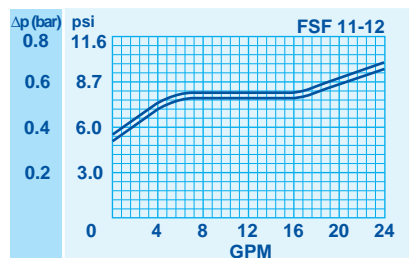
e.g. The pressure drop of a complete FSF31----FC-- filter at a 16 GPM flow rate is obtained by adding the Housing Pressure Drop and half the ESF21NFC element pressure drop at 16 GPM.

N.B. All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0.9; for fluids with different features, please consider the factors described in the first part of this catalogue.

BYPASS VALVE PRESSURE DROP

When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must

be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.

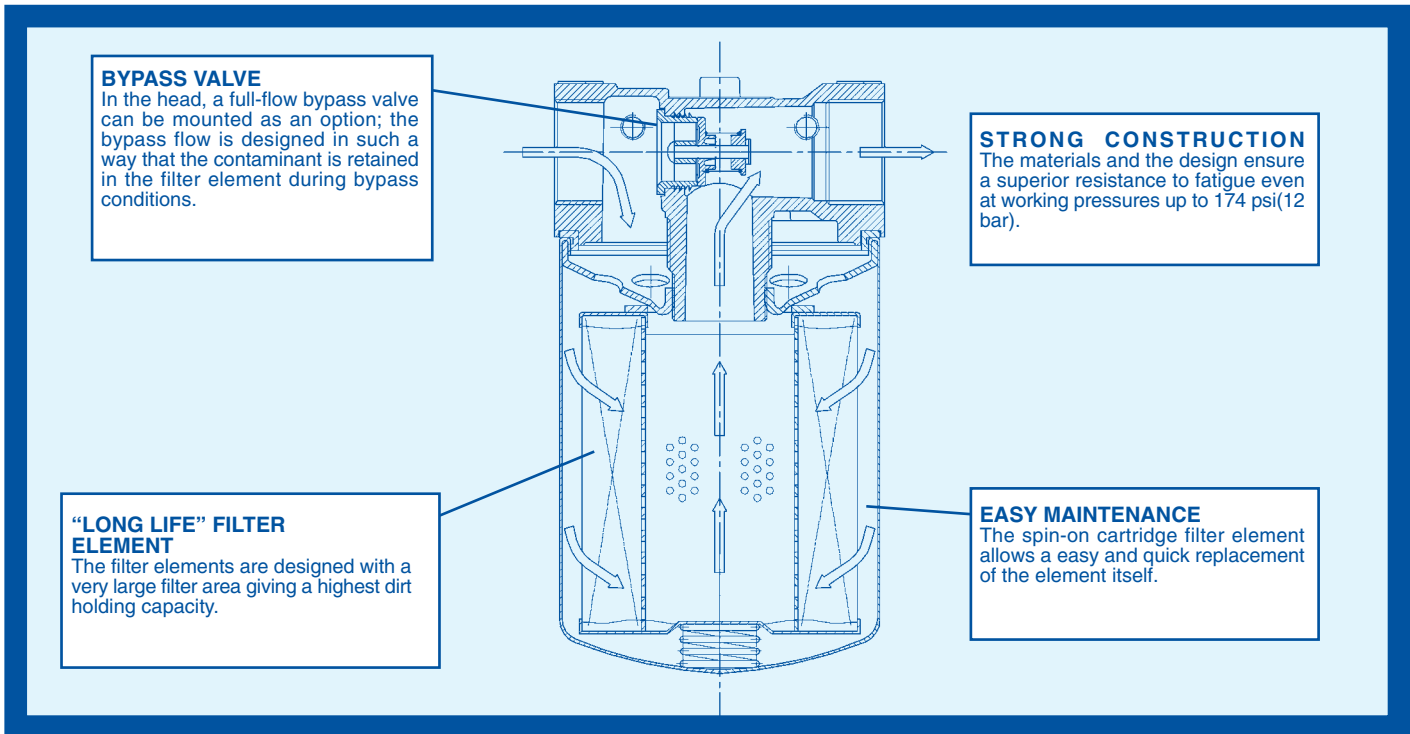


N.B. All the curves are obtained from test done at the UFI HYDRAULIC DIVISION Laboratory, according to the specification ISO 3968. In case of discrepancy, please check the contamination level, viscosity and features of the fluid in use.

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"PUMP CARE" SUCTION FILTERS

CROSS FUNCTIONAL VIEW



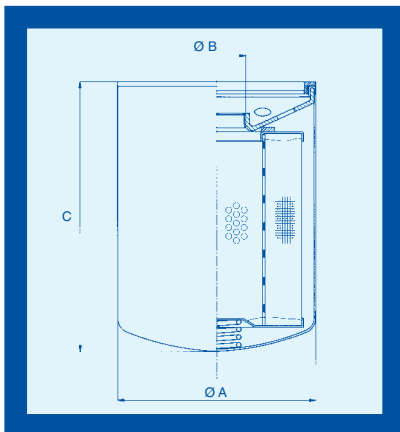
SPARE PARTS ORDERING INFORMATION

(from the code of the complete filter, fill the digits corresponding to the boxes)

Head
Seal kit

B S F X X X X
S S F X X X X X X X X X X

DIMENSIONS OF THE FILTER ELEMENTS



Type	A	B	C	Area (in ²)	
				Media M+	Media C+
E SF11	3.80	1" 12 UNF	5.75	151.9	512.3
E SF12	3.80	1" 12 UNF	7.52	215.5	735.5
E SF21	5.08	1 1/2" 16 UNF	6.93	269.7	768.8
E SF22	5.08	1 1/2" 16 UNF	10.71	477.4	1,364.0

Technical data subject to variations without prior notice. SF - USA - 07/2005

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