



EFRB Series

EVOTEK Return Filters

Product Description

- Operating pressure up to 10 bar
- 500 l/min max. flow rate
- installation in Tank-top
- application in Cooling Circuits, Fluid Conditioning Systems, Lube Oil Systems, Process Systems, Return Lines
- compliant with industry relevant ISO standards(see ISO test below)

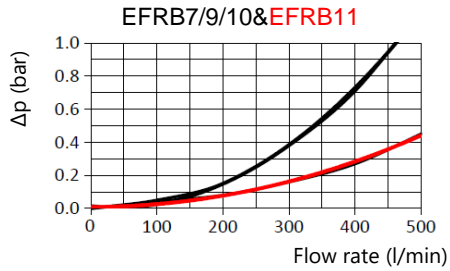
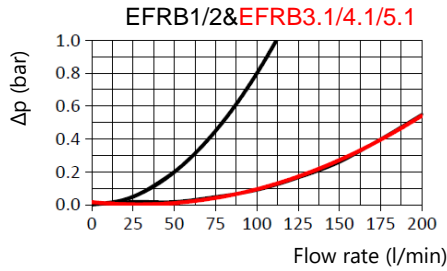
Technical Specifications

Application	Tank-top return filter
Port Sizes:	Threaded Connections according to BSP and NPT standard in ½ " to 1-½" and SAE08/SAE12/SAE16/SAE20/SAE24 threads Flange Connections in SAE DN40/ SAE DN50 / SAE DN80 for 3000psi
Flow Rate:	max. 500 l/min
Operating Pressure:	max. 10 bar
Burst Pressure:	min. 21 bar
Element Collapse Pressure:	10 bar
By-pass Opening Pressure:	$\Delta p=1.7 \text{ bar} +0.3\text{bar}$ (EFRB1 to 5.1&EFRB10) $\Delta p=3.0 \text{ bar} +0.3\text{bar}$ (EFRB7 ,9 & 11)
Material	
Seals:	NBR or FPM (-10°C to 100°C)
Filter Head:	Aluminum
Filter Bowl:	Polyamide
Compatibility:	Suitable for mineral oils, lubrication oils, non-flam fluids, synthetic and rapidly biodegradable oils (for use with water or other fields please contact our technical department)
Tested according to ISO standards:	ISO2941 Collapse/burst resistance ISO2942 Fabrication integrity ISO2943 Material compatibility integrity ISO3723 Method for end load test ISO3724 Flow fatigue characteristics ISO3968 Pressure Drop vs. Flow Rate ISO16889 Multi-Pass Test

EFRB Return Filter Series

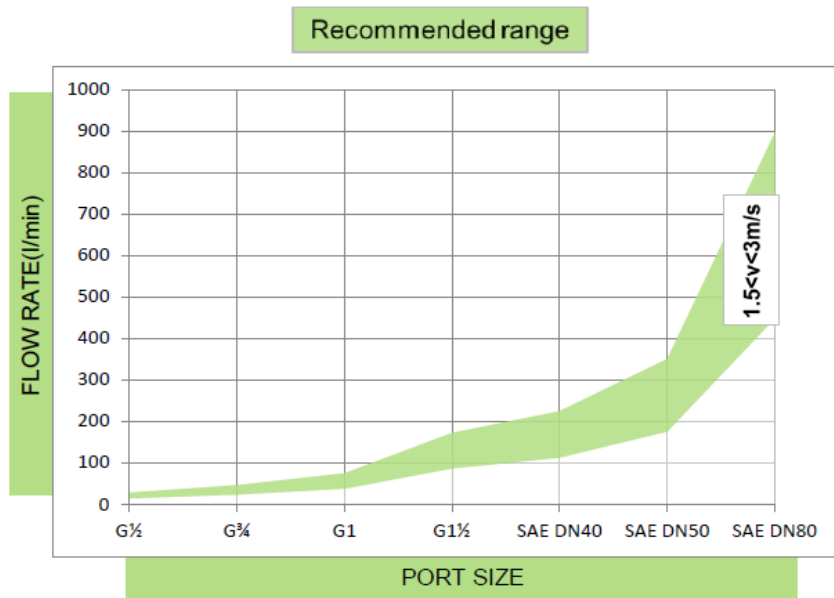
Pressure Drop Graphs (Δp)

Pressure Drop of Filter Housing only

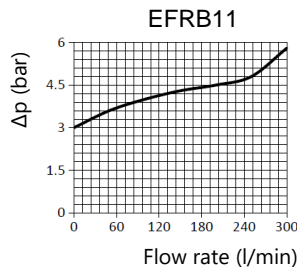
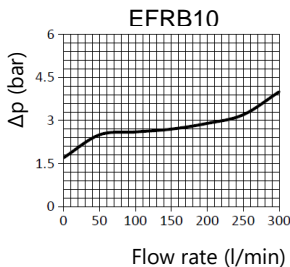
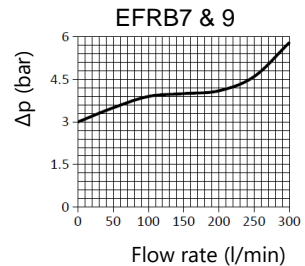
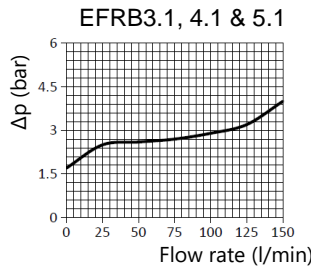
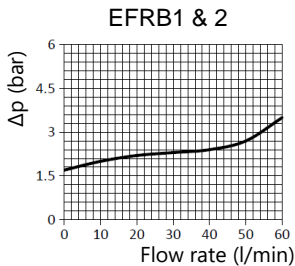


Graph of oil flow velocity

(we recommend to select size of the filter considering range of oil velocity between 1.5 to 3 m/s for return series)



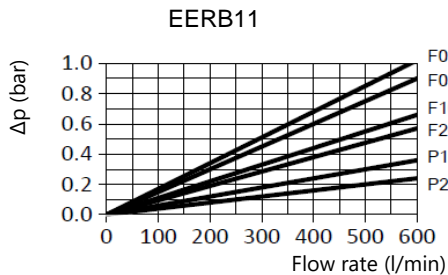
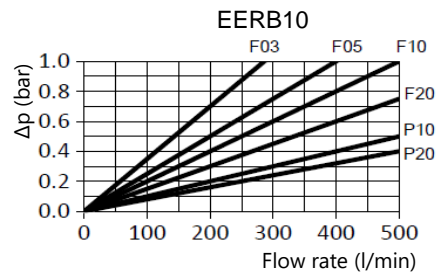
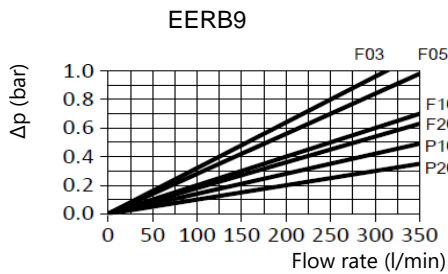
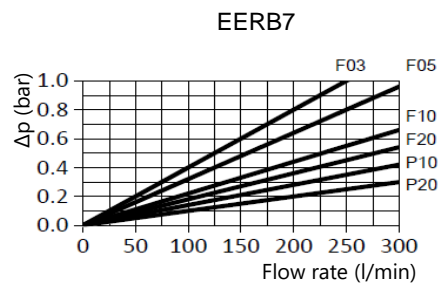
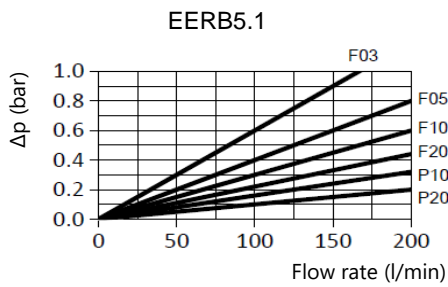
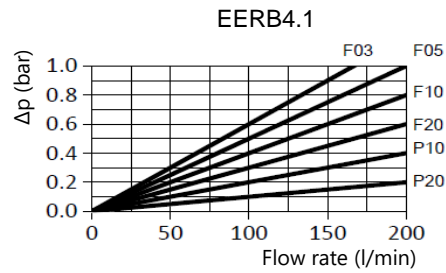
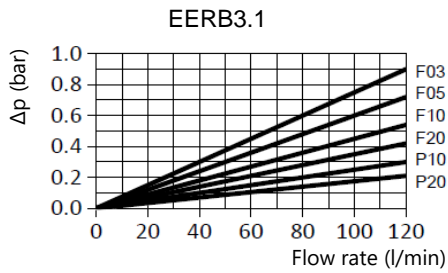
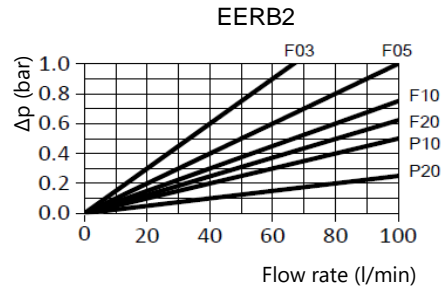
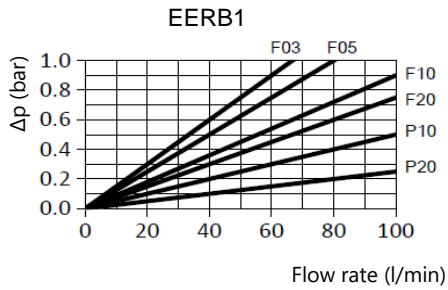
Pressure drop graph on by-pass valve



EFRB Return Filter Series

Pressure Drop Graphs (Δp)

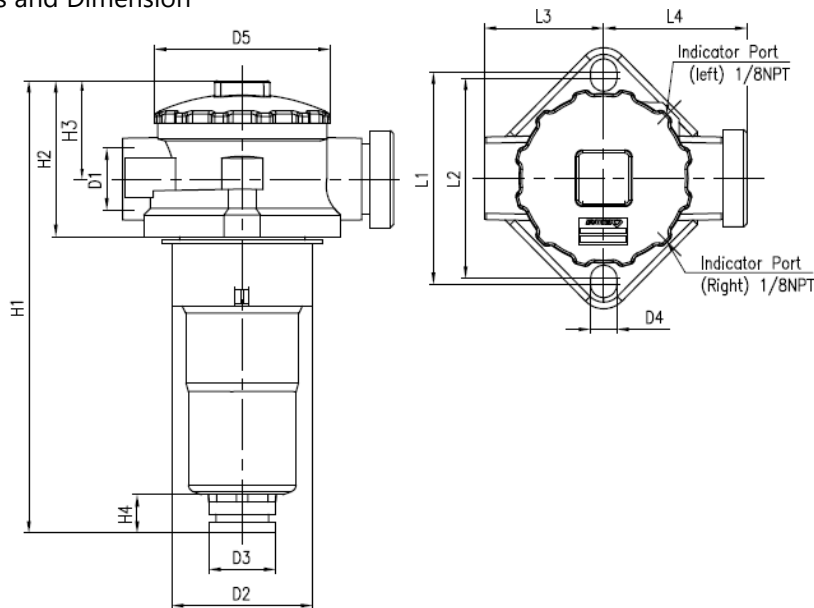
Pressure Drop with Clean Filter Elements (F and P filter media)



EFRB Return Filter Series

Technical Drawings and Dimension

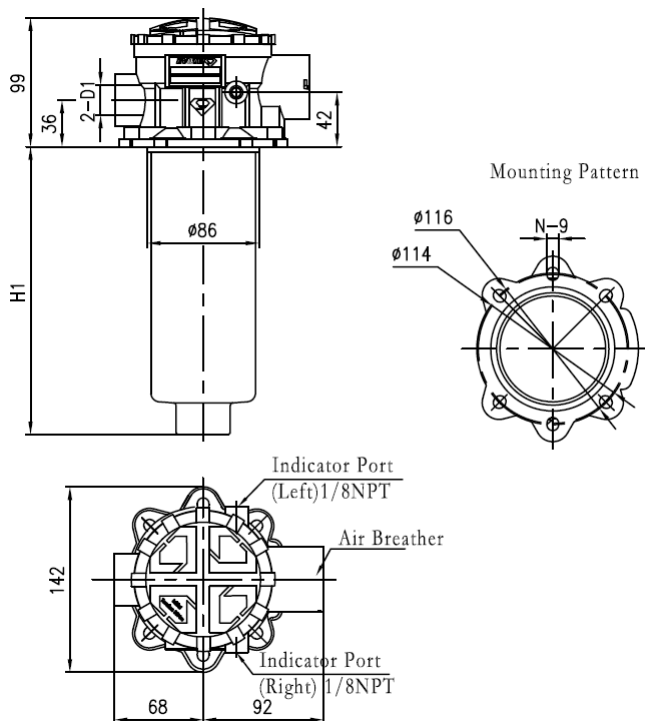
EFRB1&2



Threaded Connection Ports

Type	Connection Port (BSP/NPT/SAE)		Dia				Height							
	D1 inch		D2 mm	D3 mm	D4 mm	D5 mm	H1 mm	H2 mm	H3 mm	H4 mm	L1 mm	L2 mm	L3 mm	L4 mm
EFRB1	1/2" - 3/4" SAE08		63	28	11	75	150	67	41	21	88	86	51	60
EFRB2	SAE12		63	28	11	75	247	67	41	21	88	86	51	60

EFRB 3.1, 4.1 & 5.1



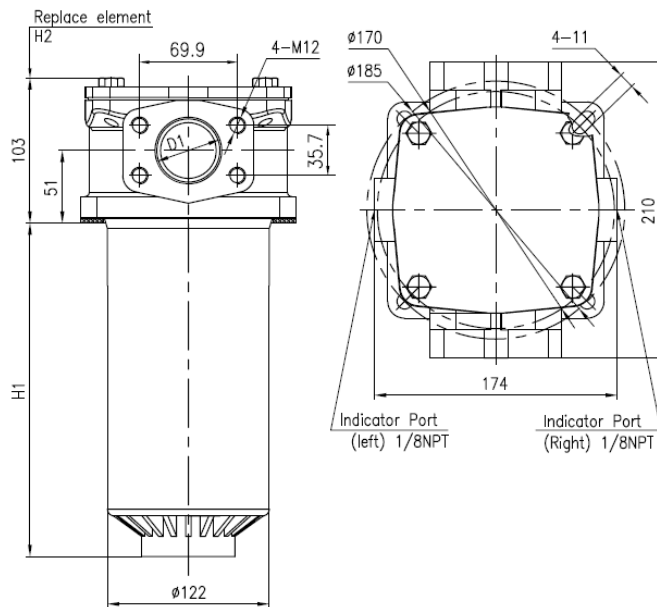
Threaded Connection Ports

Type	Connection Port (BSP/NPT/SAE)		Height	
	D1 inch		H1 mm	N
EFRB3.1	3/4" - 1"		150	2
EFRB4.1	SAE12		225	4
EFRB5.1	SAE16		325	6

EFRB Return Filter Series

Technical Drawings and Dimension

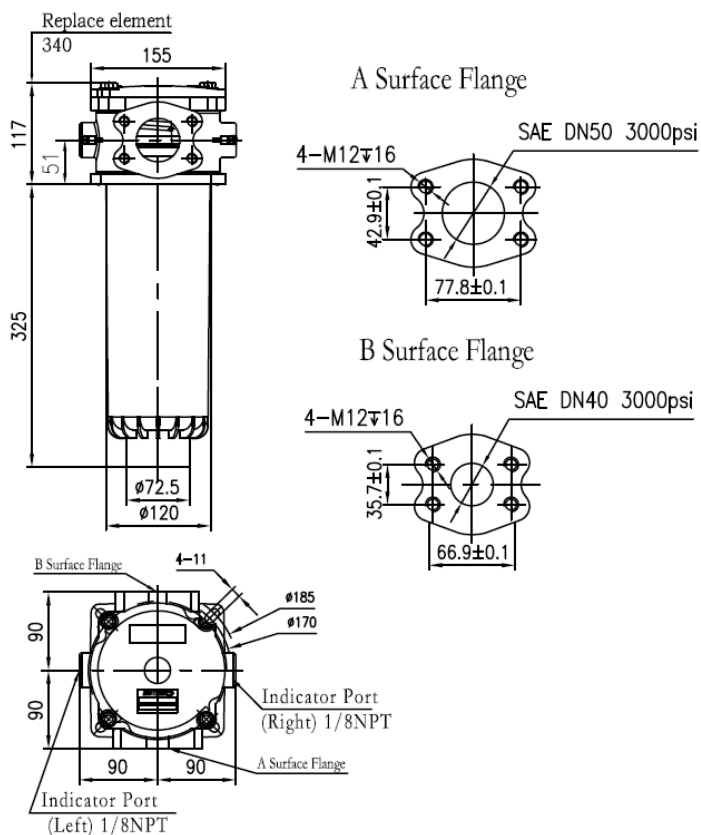
EFRB7&9



Connection Port
(BSP/NPT/SAE)

Type	D1	Height	
		inch	mm
EFRB7	1½" SAE20	H1	H2
EFRB9	SAE DN40 3000 psi	240	285

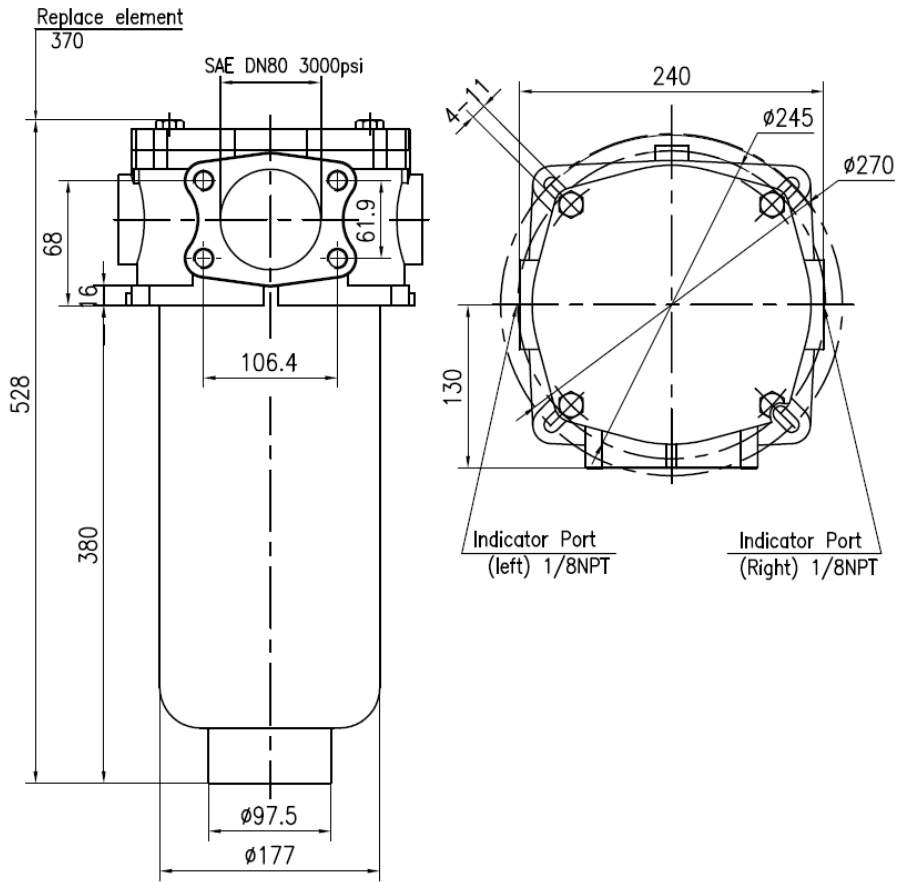
EFRB 10



EFRB Return Filter Series

Technical Drawings and Dimension

EFRB 11



EFRB Return Filter Series

Order Codes

Filter Assembly Series	A	B	C	-	D	E	-	F	G	H	Element Series	A	C	D	E
EFRB	3	BC	B	-	06	F20	-	R15	R	Y	EERB	3	B	06	F20

Select the code for each filter (or element) feature according to your requirements and place it in the sequence (see example above) to create the corresponding product order code.

A Size Flow Rate

1	30 l/min
2	60 l/min
3.1	110 l/min
4.1	140 l/min
5.1	160 l/min
7	250 l/min
9	330 l/min
10	400 l/min
11	500 l/min

B Connection Ports

A08	SAE08
A12	SAE12
A16	SAE16
A24	SAE24
BB	BSP 1/2"
BC	BSP 3/4"
BD	BSP 1"
BF	BSP 1-1/2"
NB	NPT 1/2"
NC	NPT 3/4"
ND	NPT 1"
NF	NPT 1-1/2"
FE	(3000psi) SAE DN40
FF	(3000psi) SAE DN50
FH	(3000psi) SAE DN80

C Seal

B	NBR
V	FPM

D By-pass Valve

00	No	
06	1.7 bar	(EFRB1~5.1, 10)
08	3 bar	(EFRB7, 9, 11)

E Media Material Filtration Collapse Pressure

P10	Cellulose	10µm	10 bar
P20	Cellulose	20µm	10 bar
F03	Fibreglass	5µm	10 bar
F05	Fibreglass	7µm	10 bar
F10	Fibreglass	12µm	10 bar
F20	Fibreglass	21µm	10 bar
W25	Wire Mesh	25µm	10 bar
W60	Wire Mesh	60µm	10 bar
W90	Wire Mesh	90µm	10 bar

F Indicator

F Indicator	Connection
0	No
PZ	0~4bar Axial pressure gauge 1/8NPT Thread EFRB1~5.1&10
PA	0~10bar Axial pressure gauge 1/8NPT Thread EFRB7, 9, 11
R15	1.5 bar Pressure Switch 1/8NPT Thread EFRB1~5.1&10
R20	2 bar Pressure Switch 1/8NPT Thread EFRB7, 9, 11

G Indicator Mounting position

R	Right
L	Left

H Breather

N	None	
Y	With air breather	EFRB1~5.1