



EFRN Series

EVOTEK Return Filters

Product Description

- Operating pressure up to 8 bar
- 450 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", ¾", 1", 1-¼", 1-½" to 2" and SAE12,SAE16,SAE20,SAE24

Flow Rate:

max. 450 l/min

Operating Pressure:

max. 8 bar

Burst Pressure:

min. 21bar

Element Collapse Pressure:

10 bar

By-pass Opening Pressure:

$\Delta p = 1.7 \text{ bar} + 0.3 \text{ bar}$

Material

Seals:

NBR or FPM (-25°C to 100°C)

Filter Head:

Aluminium

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)

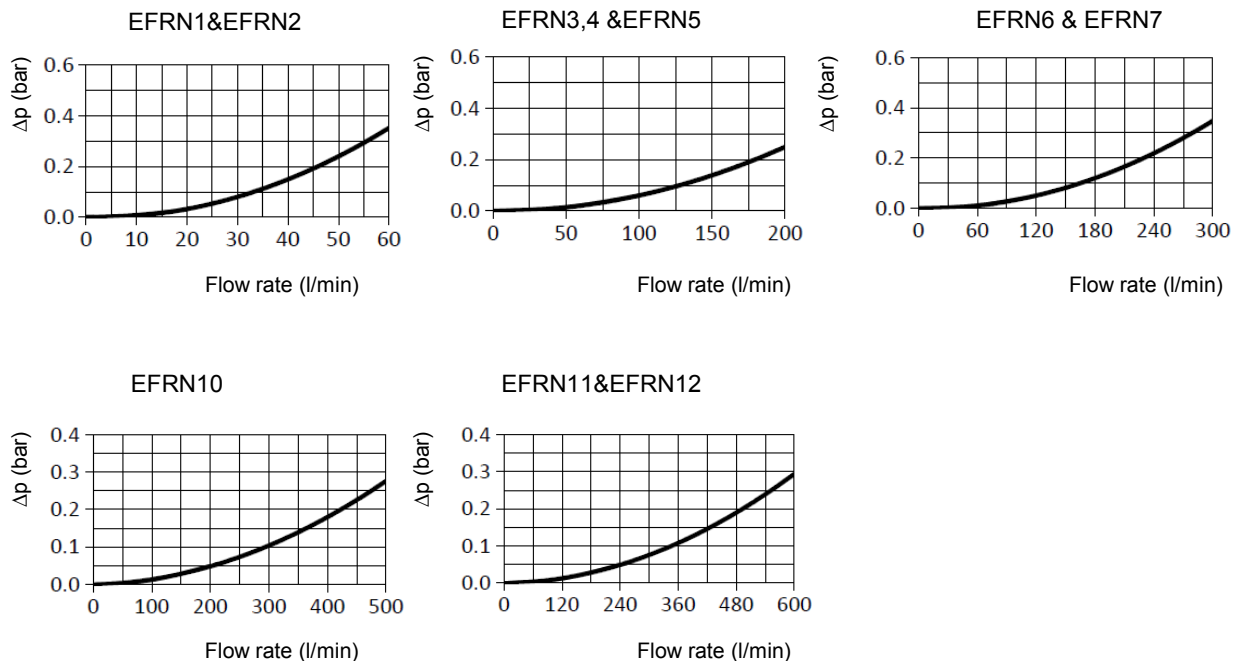
Tested according to ISO standards:

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

EFRN Return Filter Series

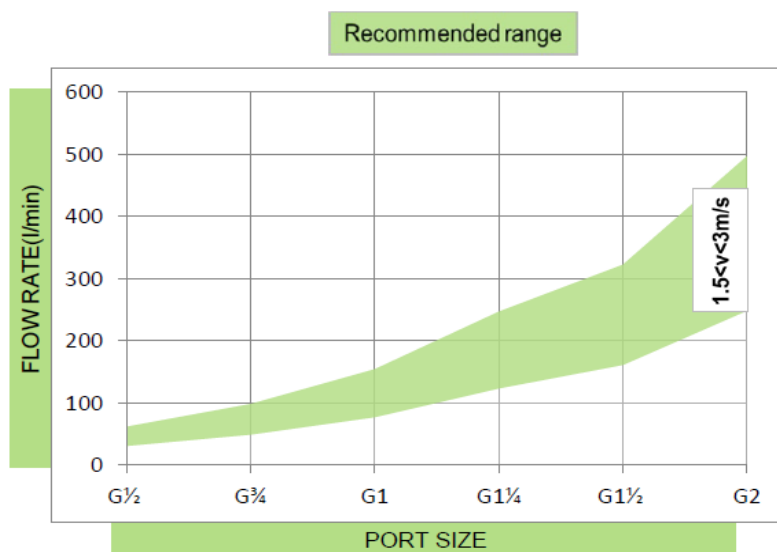
Pressure Drop Graphs (Δp)

Pressure Drop of Filter Housing only



Graph of oil flow velocity

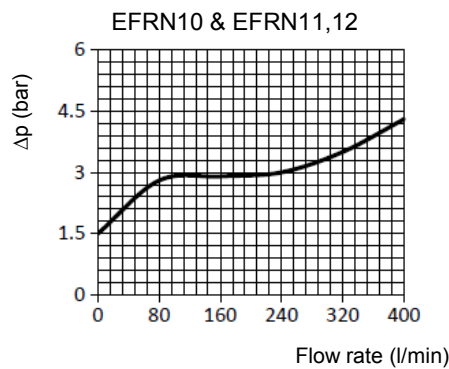
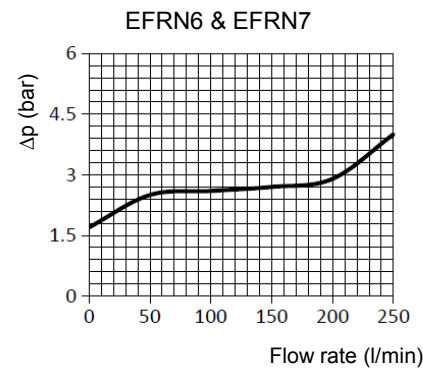
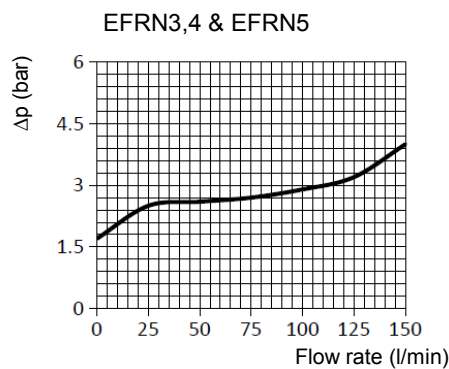
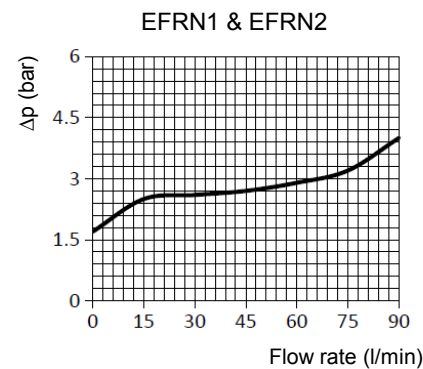
(we recommend to select size of the filter considering range of oil velocity between 1.5 to 3 m/s for return series)



EFRN Return Filter Series

Pressure Drop Graphs (Δp)

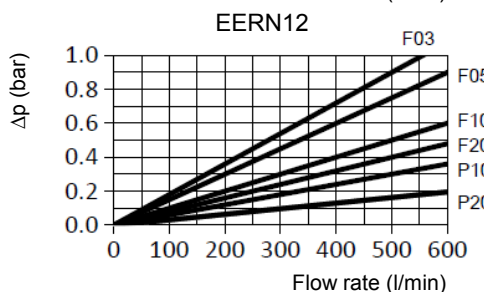
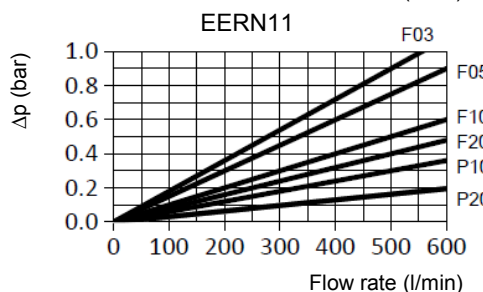
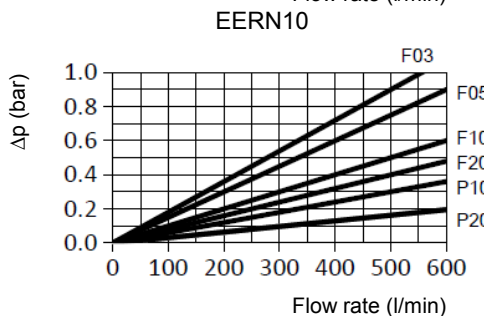
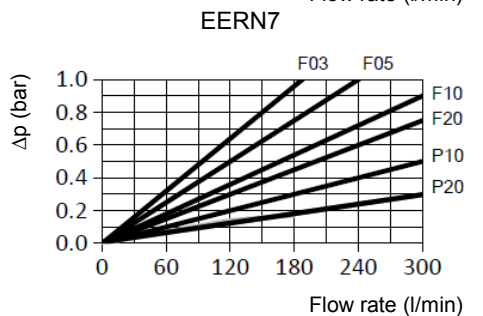
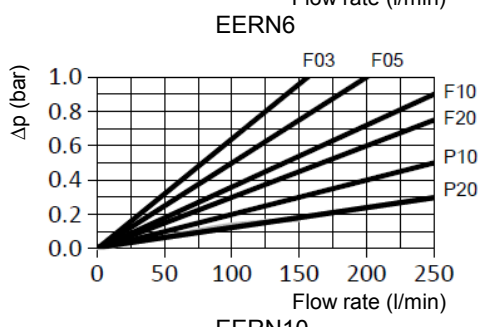
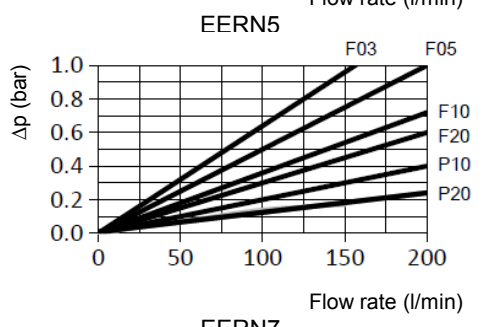
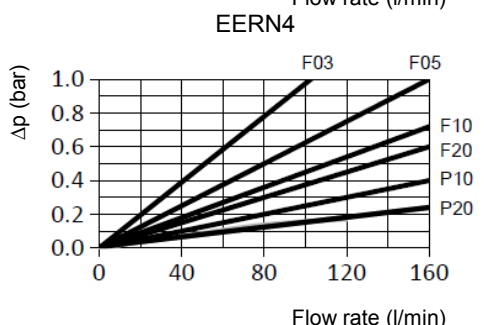
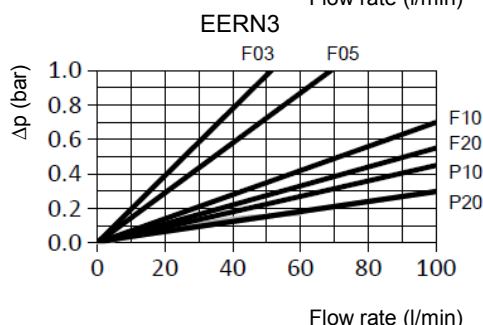
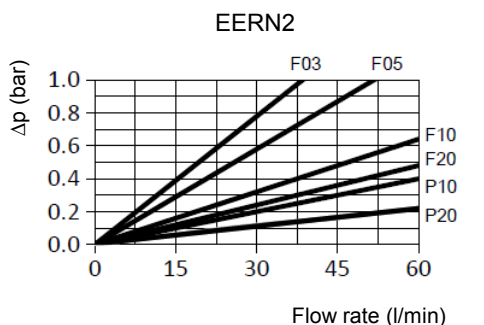
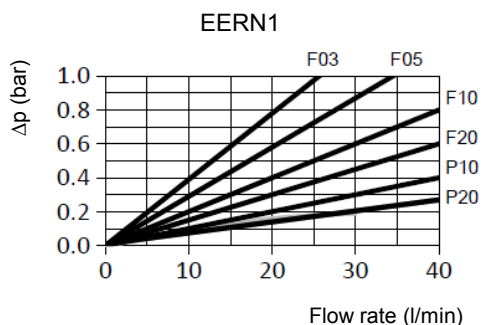
Pressure drop graph on by-pass valve



EFRN Return Filter Series

Pressure Drop Graphs (Δp)

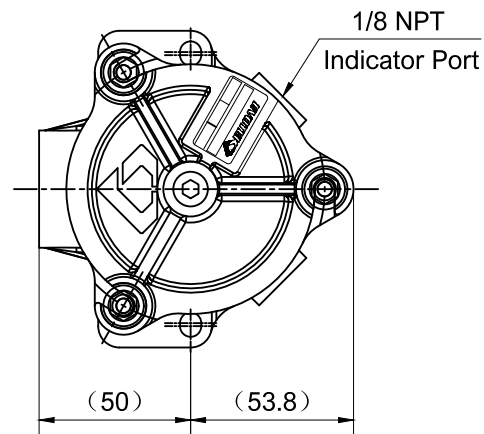
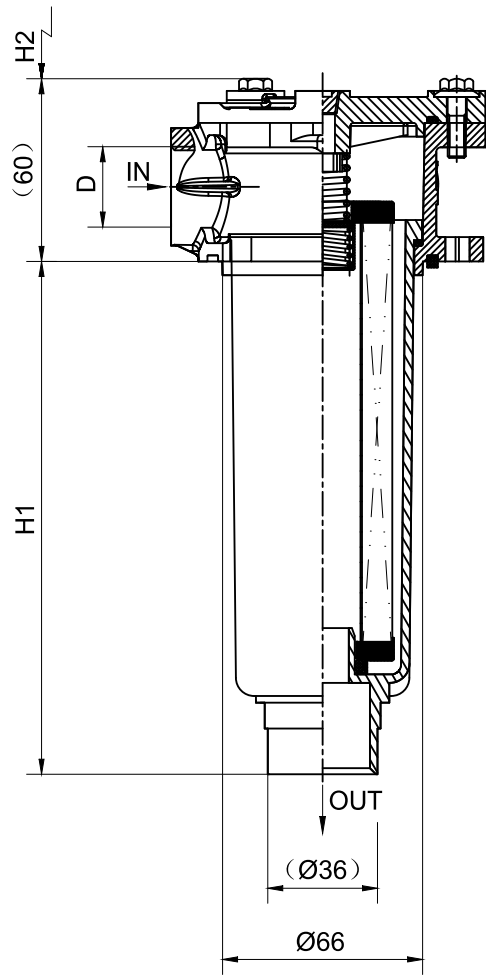
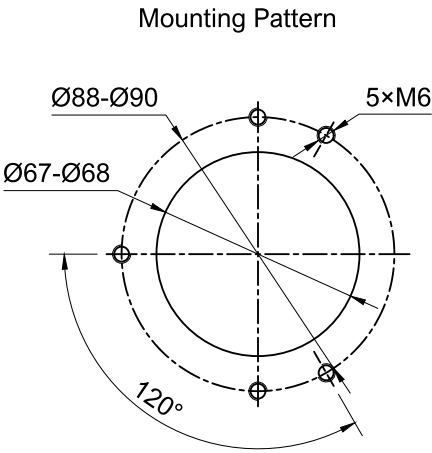
Pressure Drop with Clean Filter Elements (F and P filter media)



EFRN Return Filter Series

Technical Drawings and Dimension

EFRN1 & EFRN 2



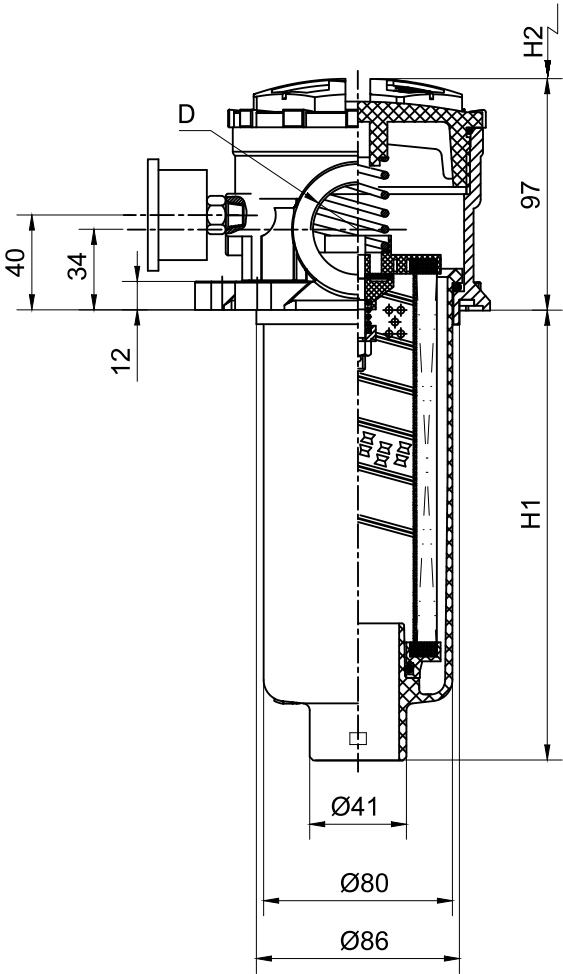
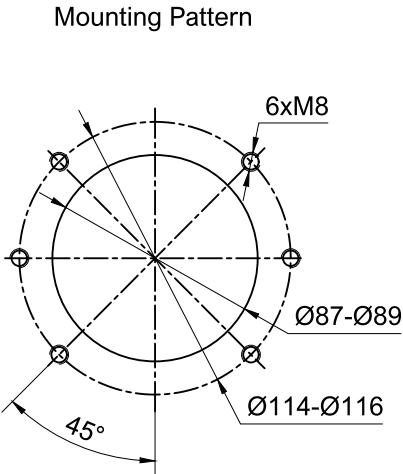
Threaded Connection Ports

Type	Connection Port (BSP/NPT/SAE)	Height	
	inch	mm	H2
EFRN1	D	H1	122
EFRN2	1/2", 3/4", SAE12	167	187

EFRN Return Filter Series

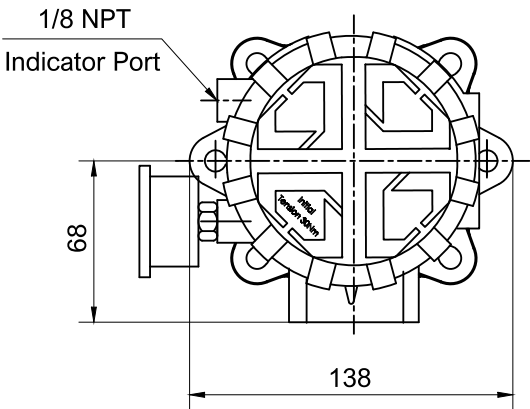
Technical Drawings and Dimension

EFRN 3,4&EFRN5



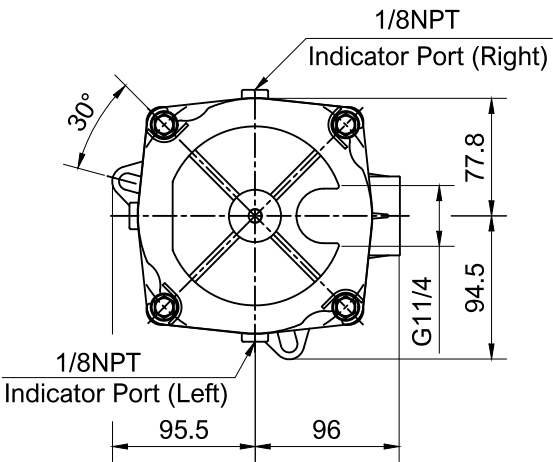
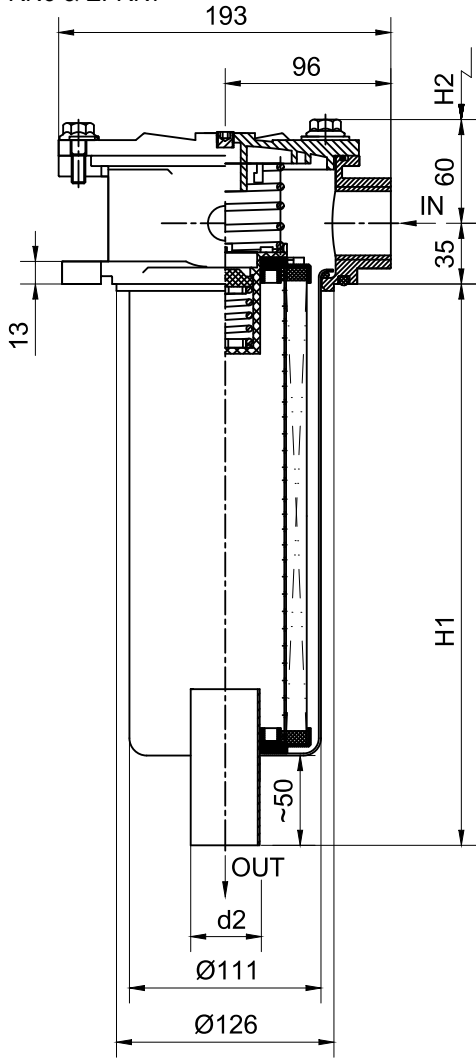
Threaded Connection Ports

Type	Connection Port (BSP/NPT/SAE)	Height	
	inch	mm	
EFRN3	D ¾" ,SAE12	H1 150	H2 170
EFRN4	1" ,SAE16	225	245
EFRN5	1-¼" ,SAE20	325	345

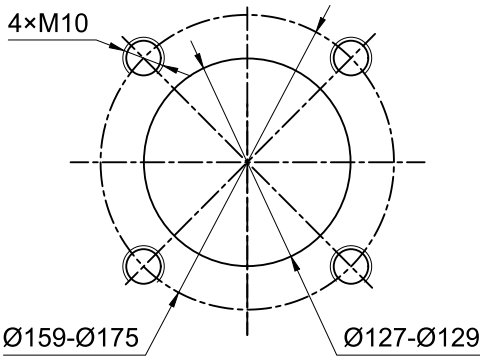


EFRN Return Filter Series Technical Drawings and Dimension

EFRN6 & EFRN7



Mounting Pattern



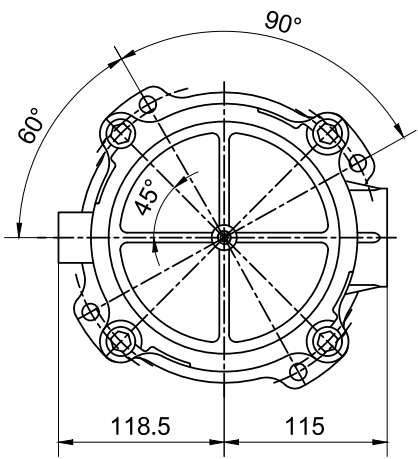
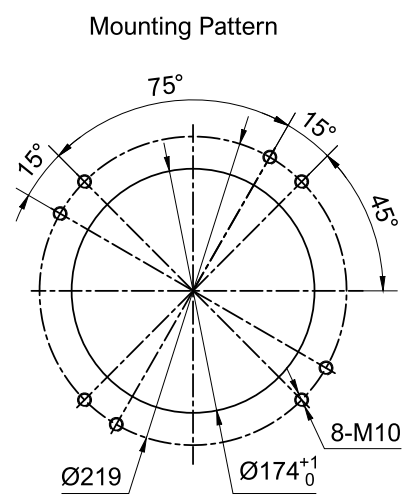
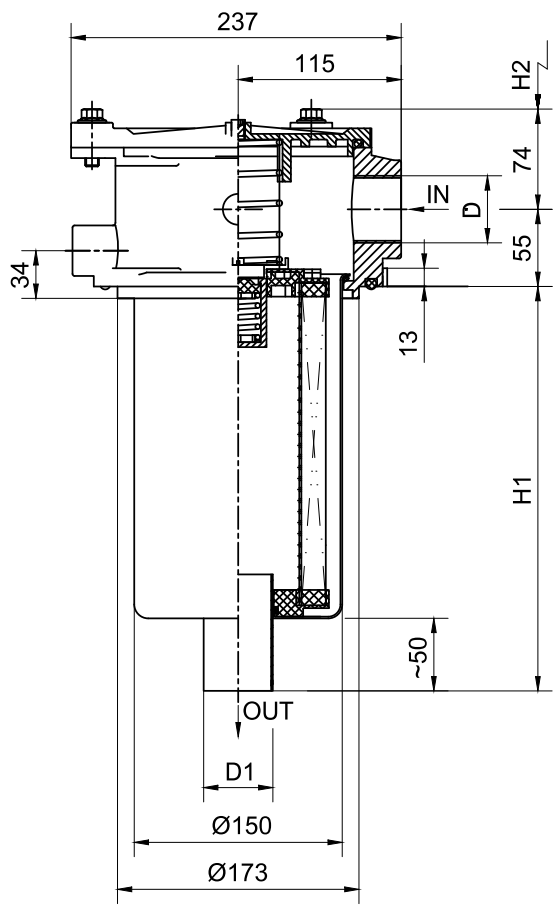
Threaded Connection Ports

Type	Connection Port		H2
	Dia mm	Height mm	
EFRN6	d2	H1	H2
EFRN7	40	440	460

EFRN Return Filter Series

Technical Drawings and Dimension

EFRN10, 11&12



Threaded Connection Ports

Type	Connection Port (BSP/NPT/SAE)		Dia		Height
	inch	D	mm	D1	
EFRN10	1-1/2", SAE24		52	188	200
EFRN11	2"		66	248	260
EFRN12	2"		66	288	310

EFRN Return Filter Series

Order Codes

Filter Assembly Series	A	B	C	-	D	E	-	F	Element Series	A	C	D	E
EFRN	3	BC	B	-	06	F20	-	R15	EERN	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	25 l/min
2	45 l/min
3	110 l/min
4	140 l/min
5	160 l/min
6	200 l/min
7	250 l/min
10	300 l/min
11	380 l/min
12	450 l/min

B Connection Ports	
BB	BSP ½"
BC	BSP ¾"
BD	BSP 1"
BE	BSP 1-¼"
BF	BSP 1-½"
BH	BSP 2"
NC	NPT ¾"
ND	NPT 1"
NE	NPT 1-¼"
NF	NPT 1-½"
NH	NPT 2"
A12	SAE 12
A16	SAE 16
A20	SAE 20
A24	SAE 24

C	Seal		
B	NBR		
V	FPM		
D By-pass Valve			
0	No		
6	1.7 bar		
X	Special		
E Media	Material	Filtration	Collapse Pressure
P10	Cellulose	10µm	10 bar
P20	Cellulose	20µm	10 bar
F03	Fiberglass	5µm	10 bar
F05	Fiberglass	7µm	10 bar
F10	Fiberglass	12µm	10 bar
F20	Fiberglass	21µm	10 bar
W25	Wire Mesh	25µm	10 bar
W60	Wire Mesh	60µm	10 bar
W90	Wire Mesh	90µm	10 bar
F Indicator	Connection		
0	No		
PZ	0~4bar Axial pressure gauge	1/8NPT Thread	
R15	1.5 bar Pressure Switch	1/8NPT Thread	

Notes

[illegible]