

Materials

Head: Aluminium alloy
 Cover & bowl: Polyamide
 Bypass valve: Polyamide
 Seals: NBR Nitrile
 Indicator housing: Brass

Application Example



Return Filter - RB

Pressure (ISO 10771-1:2002)

Max working: 700 kPa (7 bar)
 Test: 1 MPa (10 bar)
 Bursting: 2,1 MPa (21 bar)
 Collapse, differential for the filter element (ISO 2941): 300 kPa (3 bar)

Bypass Valve

Setting: 170 kPa (1.7 bar) ± 10%

Working Temperature

From -25° to +110° C

Compatibility (ISO 2943:1999)

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

Ordering Codes - Filter

<input type="checkbox"/>	Type				
	F = Filter Complete	F	F	F	F
	B = Filter Housing	B	B	B	B

<input type="checkbox"/>	R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Family, Nominal Size, Length	11	21	22	23
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<input type="checkbox"/>	Port Type				
	B = BSP Thread	B	B	B	B
	N = NPT Thread	N	N	N	N
	S = SAE Thread	S	S	S	S

<input type="checkbox"/>	<input type="checkbox"/>	Port Size			
		04 = 1/2"	04	-	-
		06 = 3/4"	06	06	06
		08 = 1"	-	08	08

<input type="checkbox"/>	B	Bypass Valve			
		B = 170 kPa (1.7 bar) - 250 kPa (2.5 bar) for media F+	B	B	B

<input type="checkbox"/>	N	Seals N = NBR Nitrile	N	N	N
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<input type="checkbox"/>	<input type="checkbox"/>	Filter Media			
		CC = Cellulose 10µm β>2	CC	CC	CC
		CD = Cellulose 25µm β>2	CD	CD	CD
		FA = Fibre 5µm(ε) β>1.000	FA	FA	FA
		FB = Fibre 7µm(ε) β>1.000	FB	FB	FB
		FC = Fibre 12µm(ε) β>1.000	FC	FC	FC
		FD = Fibre 21µm(ε) β>1.000	FD	FD	FD

<input type="checkbox"/>	<input type="checkbox"/>	Clogging Indicator			
		05 = nr. 2 x 1/8" ports, plugged	05	05	05
		30 = pressure gauge, rear connection	30	30	30
		P1 = SPDT, pressure switch	P1	P1	P1
		P6 = SPDT, pressure switch	P6	P6	P6

<input type="checkbox"/>	Accessories				
	W = without	W	W	W	W
	C = with paper air filter	C	C	C	C
	D = with metal air filter	D	D	D	D

<input type="checkbox"/>	Accessories				
	W = without	W	W	W	W
	H = with dipstick	H	H	H	H



Return Filter - RB

Ordering Codes - Element

E	Element				
R	B			Family, Nominal Size, Length	11 21 31 32
N	Seals	N = NBR Nitrile	N	N	N N
		Filter Media			
		CC = Cellulose 10µm β>2	CC	CC	CC CC
		CD = Cellulose 25µm β>2	CD	CD	CD CD
		FA = Fibre 5µm(e) β>1.000	FA	FA	FA FA
		FB = Fibre 7µm(e) β>1.000	FB	FB	FB FB
		FC = Fibre 12µm(e) β>1.000	FC	FC	FC FC
		FD = Fibre 21µm(e) β>1.000	FD	FD	FD FD

HOUSINGS				
Body Size	Connection	Flow Rate Max Lpm	Price £	Price €
FRB11	1/2"	60 LPM	ON REQUEST	
FRB21	3/4"	85 LPM	ON REQUEST	
FRB22	1"	135 LPM	ON REQUEST	
FRB23	1"	135 LPM	ON REQUEST	

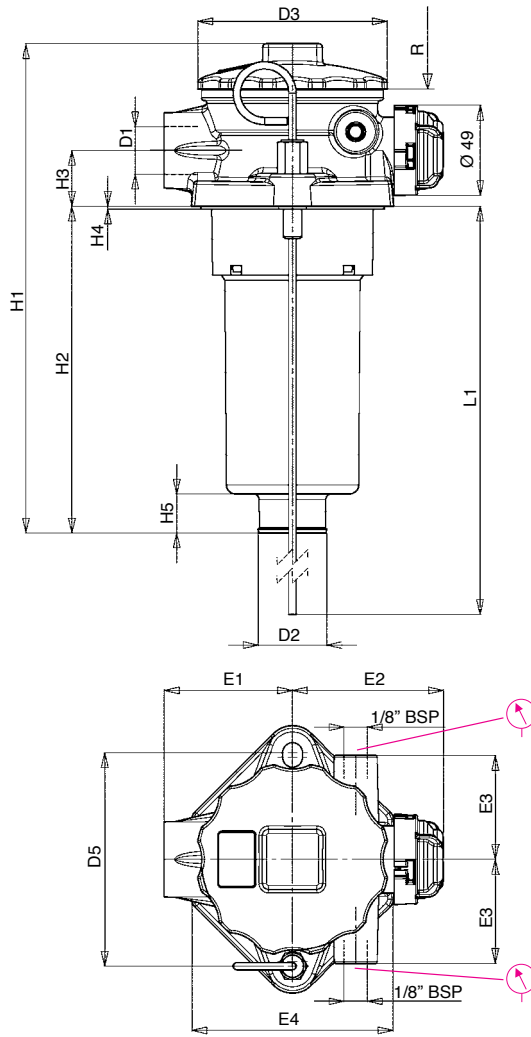
ELEMENT to be added					
Element	Filtration	Size 11	Size 21	Size 22	Size 23
FA	5 micron		ON REQUEST		
FB	7 micron		ON REQUEST		
FC	12 micron		ON REQUEST		
FD	21 micron		ON REQUEST		
CC	10 micron		ON REQUEST		
CD	25 micron		ON REQUEST		

CLOGGING INDICATOR			
	Description	Price £	Price €
05	2 off 1/8" ports plugged	ON REQUEST	
30	pressure gauge back entry	ON REQUEST	
P1	pressure switch - electric signal	ON REQUEST	
P6	pressure switch - electric signal	ON REQUEST	
Accessories			
C	With paper air filter	ON REQUEST	
D	With metal air filter	ON REQUEST	
H	With Dipstick	ON REQUEST	

FOR ELEMENT PART NUMBER	
E	- ELEMENT
RB	- FILTER FAMILY SERIES
11	- FILTER HOUSING SIZE
CC	- ELEMENT MEDIA

Example:
Part **ERB11CC** : element in 10 micron cellulose media for a size "11" housing

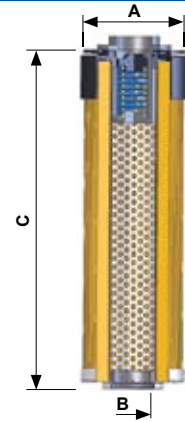
Return Filter - RB



FILTER HOUSING																	
	D1	D2	D3	D4	D5	E1	E2	E3	E4	H1	H2	H3	H4	H5	L1	R	kg
FRB11	1/2" - 3/4"	28	75	61	82÷88	50	70	28	77	243	178	24	2	16	380	220	0,40
FRB21	3/4" - 1"	36	104	89	110÷115	70	83	37	108	200	110	30	1,5	22	370	190	0,84
FRB22	3/4" - 1"	36	104	89	110÷115	70	83	37	108	265	175	30	1,5	22	370	240	0,87
FRB23	3/4" - 1"	36	104	89	110÷115	70	83	37	108	365	275	30	1,5	22	370	350	0,92

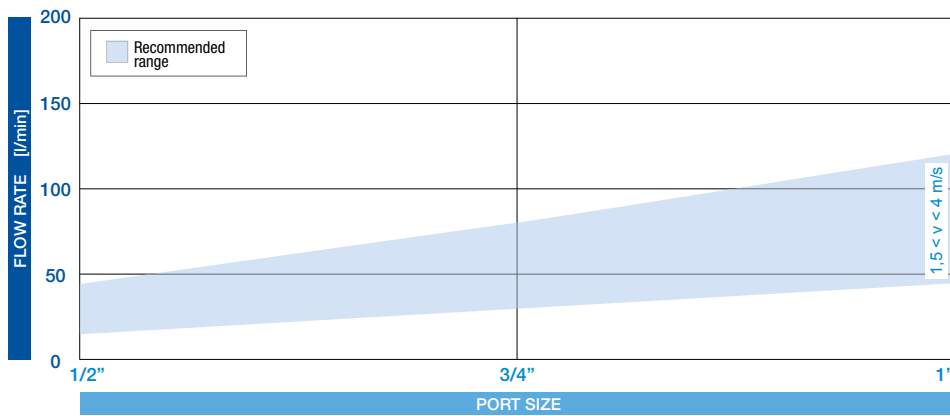
Return Filter - RB

FILTER ELEMENT						
	A	B	C	kg	Area (cm ²)	
					Media F+	Media C+
ERB11	43	20	200	0,20	1.225	1.225
ERB21	59	28	134	0,30	1.500	1.500
ERB22	59	28	200	0,40	2.295	2.295
ERB23	59	28	300	0,50	3.495	3.495



FLUID SPEED

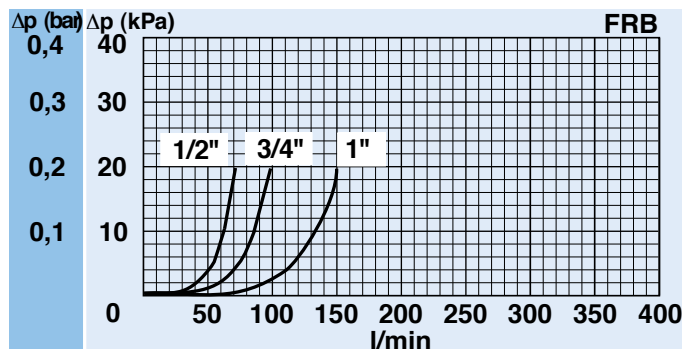
(when selecting the filter size, we suggest to consider also the max recommended fluid speed (in return lines normally $1,5 < v < 4$ m/s))



PRESSURE DROP CURVES (Δp)

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 50 kPa (0,5 bar).

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



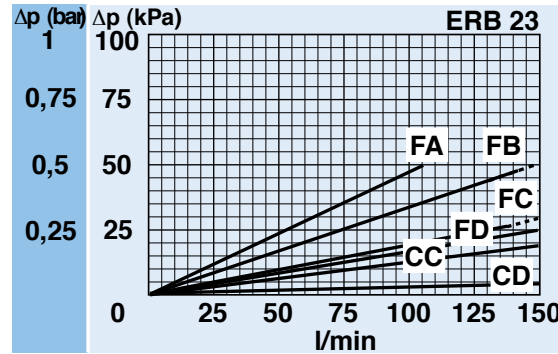
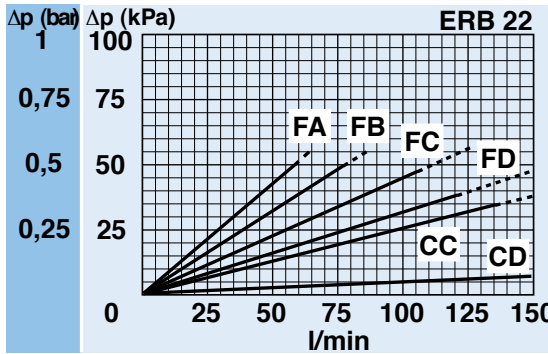
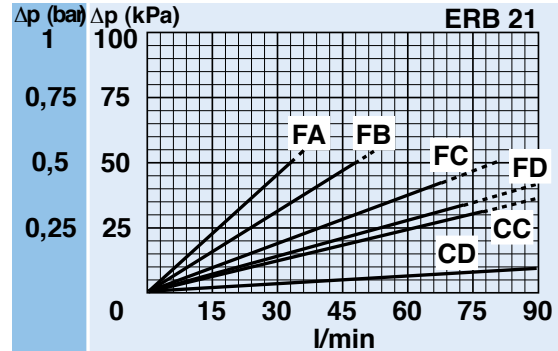
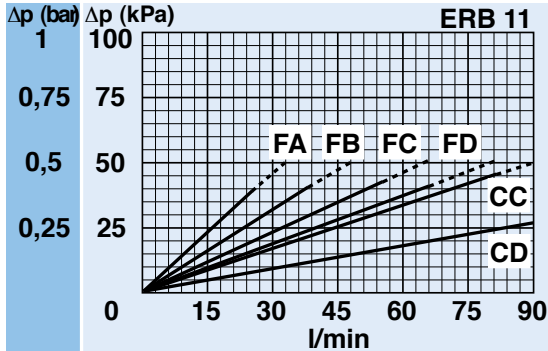
Return Filter - RB

PRESSURE DROP CURVES (Δp)

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 50 kPa (0,5 bar).

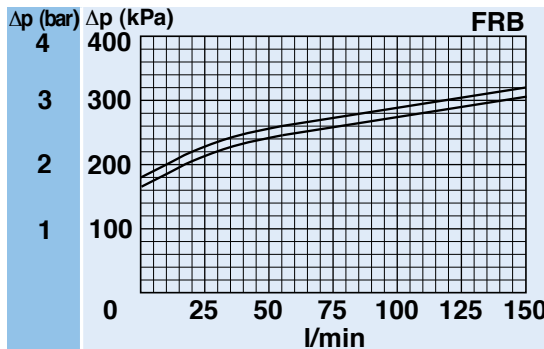
CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ AND C+ MEDIA

(depending both on the internal diameter of the element and on the filter media)



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.



Return Filter - RB

CLOGGING INDICATOR

A visual or electrical indicator is available as an option and allows monitoring of the element condition. The port for the indicator is a standard feature.

DIPSTICK

The (optional) dipstick allows to check the oil level, with no need for a visual level gauge, thus saving space and costs.

EASY REPLACEMENT

The top end cap includes a handle allowing an easy removal of the element and complete cleaning of the bowl.

QUICK MAINTENANCE

Thanks to a threaded cap no tool is needed when replacing the element.

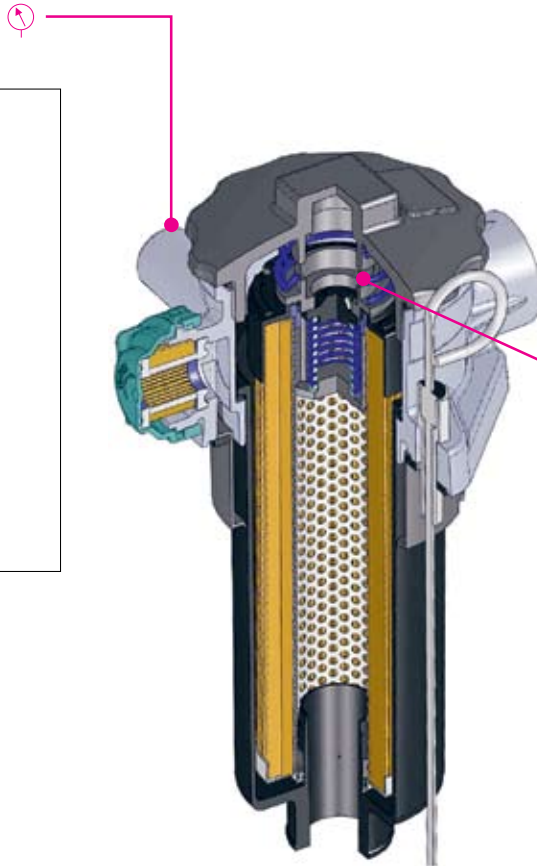
AIR BREATHER

The built in air breather joins in one product even the air filtration function.

NO LEAKS

The end cap with captive O-ring ensures a perfect sealing between filter element and bowl.

CLOGGING INDICATOR



SPARE SEAL KIT

NBR	
FRB11	521.0016.2
FRB21	521.0017.2
FRB22	521.0017.2
FRB23	521.0017.2

SPARE SPRING

FRB11	008.0208.1
FRB21	008.3014.1
FRB22	008.3014.1
FRB23	008.3014.1

SPARE PARTS ELEMENTS

(For filling up see table "Ordering and option chart")

FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR	ACCESSORY	ACCESSORY
<input type="checkbox"/> B <input type="checkbox"/> R <input type="checkbox"/> B <input type="checkbox"/> N	<input type="checkbox"/> E <input type="checkbox"/> R <input type="checkbox"/> B <input type="checkbox"/> N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			DIPSTICK	PAPER AIR FILTER