

TANK CARE

Return Filters

RB



CLOGGING INDICATOR

A visual or electrical indicator is available as an option and allows to monitor the element condition.

The port for the indicator is a standard feature.



AIR BREATHER

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

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

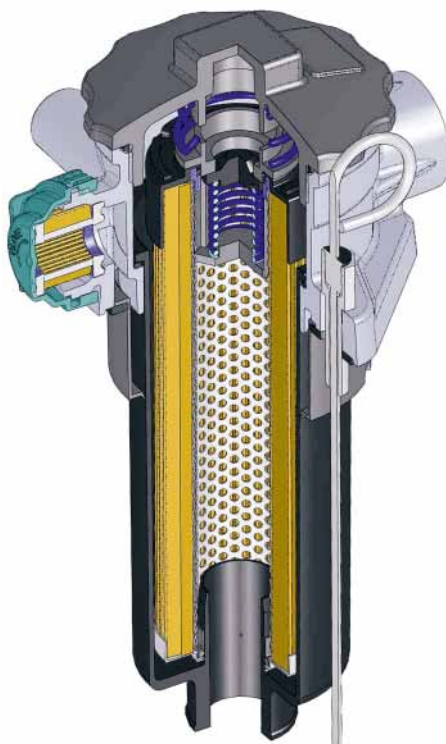
The top end cap includes a handle allowing an easy removal of the element and complete cleaning of the bowl.

QUICK MAINTENANCE

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

NO LEAKS

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



MATERIALS

Head:
Aluminium alloy

Cover & bowl:
Polyamide

Bypass valve:
Polyamide

Seals:
NBR Nitrile

Indicator housing:
Brass

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%

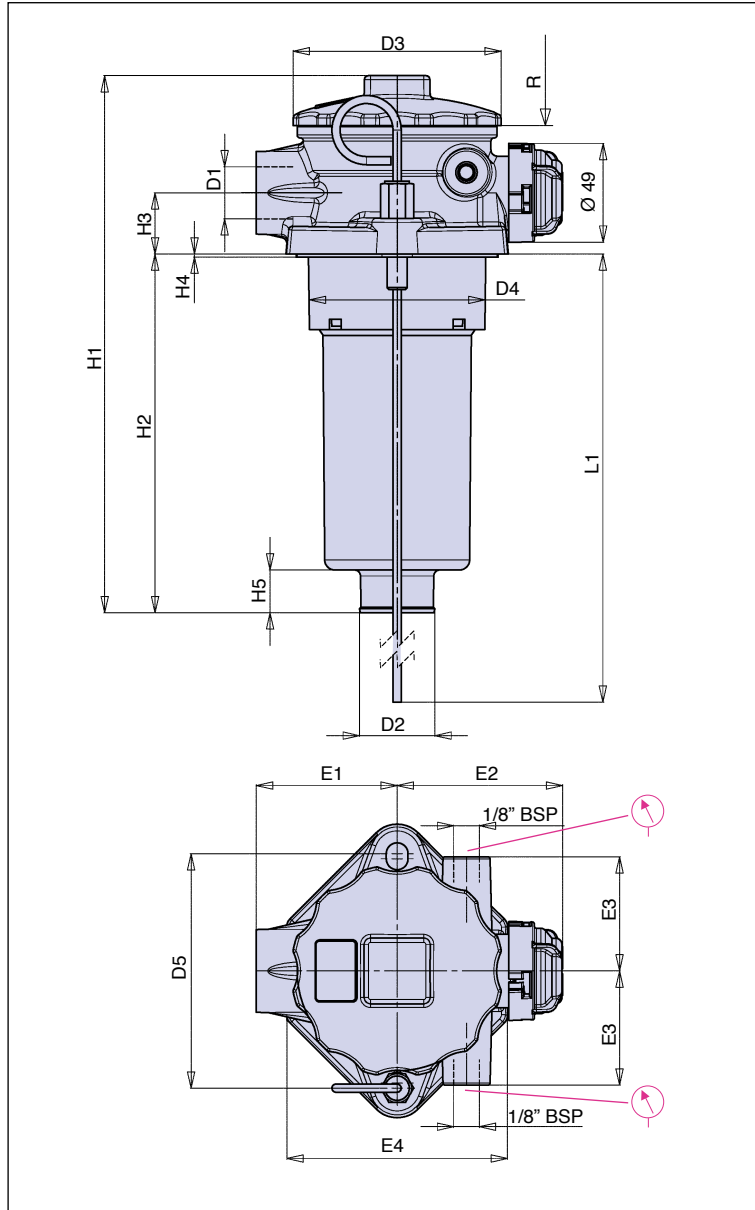
WORKING TEMPERATURE

From -25° to +110° C

COMPATIBILITY (ISO 2943:1999)

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

INSTALLATION DRAWING



DIMENSIONS AND WEIGHTS

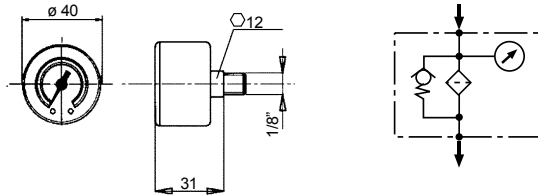
(*) Filters according to specification DIN 24550

FILTER HOUSING

	D1	D2	D3	D4	D5	E1	E2	E3	E4	H1	H2	H3	H4	H5	L1	R	kg	(*)NG DIN
FRB11	1/2" ÷ 3/4"	28	75	60	82÷88	50	70	28	77	243	178	24	2	16	380	220	0,40	-
FRB21	3/4" ÷ 1"	36	104	87	110÷115	70	83	37	108	200	110	30	1,5	22	370	190	0,84	-
FRB22	3/4" ÷ 1"	36	104	87	110÷115	70	83	37	108	265	175	30	1,5	22	370	240	0,87	-
FRB23	3/4" ÷ 1"	36	104	87	110÷115	70	83	37	108	365	275	30	1,5	22	370	350	0,92	-
FRB31 (*)	3/4" ÷ 1"	36	104	87	110÷115	70	83	37	108	254	165	30	1,5	22	370	240	0,85	063
FRB32 (*)	3/4" ÷ 1"	36	104	87	110÷115	70	83	37	108	344	255	30	1,5	22	370	350	0,90	100

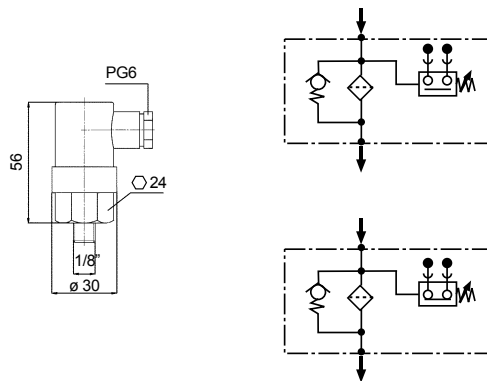
CLOGGING INDICATORS

SERIES 30



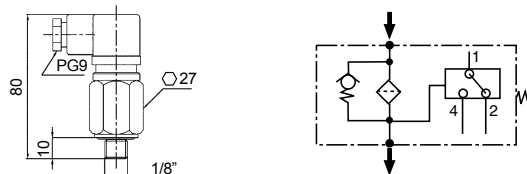
Series 30 (rear connection):
pressure gauge,
scale 0 - 600 kPa (0 - 6 bar)

SERIES 80 & 86 & SERIES 81 & 87



**Series 80 & 86 (N.O. contacts)
& series 81 & 87 (N.C. contacts):**
pressure switch,
max voltage 220 Vca 50-60 Hz
max current 0,5A resistive, 0,25A inductive
switching power 100VA,
setting 150 kPa (1,5 bar) for 80 & 81,
setting 200 kPa (2 bar) for 86 & 87
protection IP65

SERIES P1 & P6

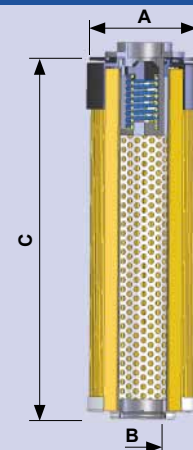


Series P1 & Series P6:
SPDT, pressure switch
max voltage 250V - 50Hz
max current 6A resistive, 1A inductive
protection IP65
setting 150 kPa (1,5 bar) for P1
setting 200 kPa (2 bar) for P6

86, 87 and P6 to be used with F+ elements only.

FILTER ELEMENT

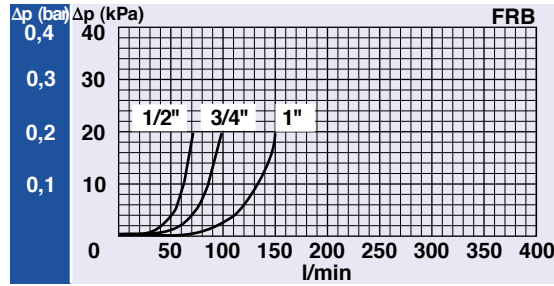
	A	B	C	kg	Area (cm ²)	
					Media F+	Media C+
ERB11	43	20	200	0,20	1.225	1.225
ERB21	59	28	134	0,30	1.500	1.500
ERB22	59	28	200	0,40	2.295	2.295
ERB23	59	28	300	0,50	3.495	3.495
ERB31	59	32	160	0,35	1.650	1.650
ERB32	59	32	250	0,45	2.640	2.640



PRESSURE DROP CURVES (Δp)

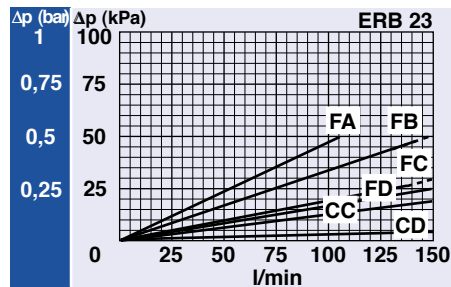
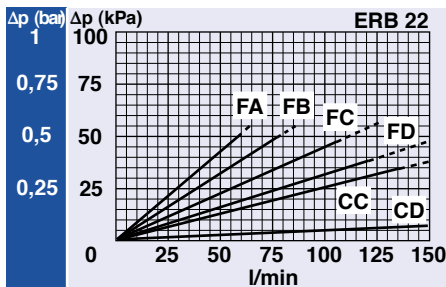
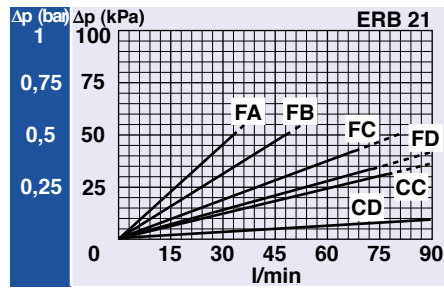
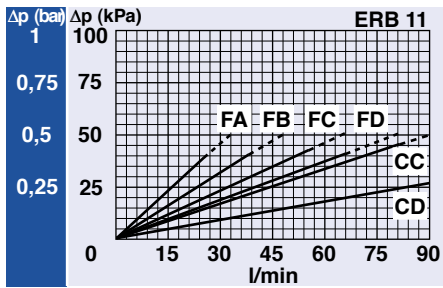
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 50 kPa (0,5 bar).

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



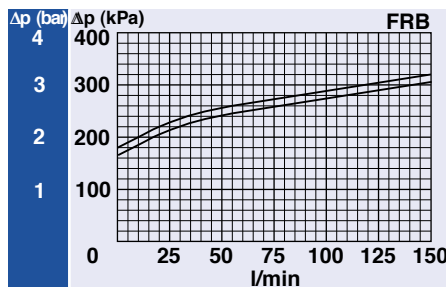
CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ AND C+ MEDIA

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



BYPASS VALVE PRESSURE DROP

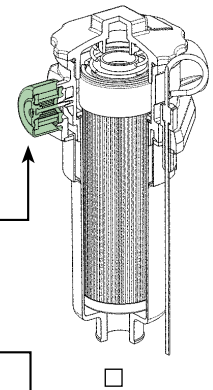
When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.



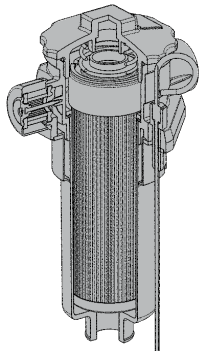
ORDERING AND OPTIONS CHART

TYPE									
F = FILTER COMPLETE		F	F	F	F	F	F	ELEMENT	
B = FILTER HOUSING		B	B	B	B	B	B	E	
R	B							FAMILY SIZE & LENGTH	
FAMILY NOMINAL SIZE & LENGTH		11	21	22	23	31	32	R	B
PORT TYPE									
B = BSP thread		B	B	B	B	B	B		
N = NPT thread		N	N	N	N	N	N		
S = SAE thread		S	S	S	S	S	S		
PORT SIZE									
04 = 1/2"		04	-	-	-	-	-		
06 = 3/4"		06	06	06	06	06	-		
08 = 1"		-	08	08	08	-	08		
B	BYPASS VALVE								
B = 170 kPa (1,7 bar)- 250 kPa (2,5 bar) for media F+		B	B	B	B	B	B		
N	SEALS							SEALS	
N = NBR Nitrile		N	N	N	N	N	N	N = NBR	
FILTER MEDIA								FILTER MEDIA	
FA = fiber 5 $\mu\text{m}_{(e)}$ $\beta > 1.000$		FA	FA	FA	FA	FA	FA	FA = fiber 5 $\mu\text{m}_{(e)}$	
FB = fiber 7 $\mu\text{m}_{(e)}$ $\beta > 1.000$		FB	FB	FB	FB	FB	FB	FB = fiber 7 $\mu\text{m}_{(e)}$	
FC = fiber 12 $\mu\text{m}_{(e)}$ $\beta > 1.000$		FC	FC	FC	FC	FC	FC	FC = fiber 12 $\mu\text{m}_{(e)}$	
FD = fiber 21 $\mu\text{m}_{(e)}$ $\beta > 1.000$		FD	FD	FD	FD	FD	FD	FD = fiber 21 $\mu\text{m}_{(e)}$	
CC = cellulose 10 μm $\beta > 2$		CC	CC	CC	CC	CC	CC	CC = cellulose 10 μm	
CD = cellulose 25 μm $\beta > 2$		CD	CD	CD	CD	CD	CD	CD = cellulose 25 μm	
CLOGGING INDICATORS									
05 = nr. 2 x 1/8" ports, plugged		05	05	05	05	05	05		
30 = pressure gauge, rear connection		30	30	30	30	30	30		
80 = pressure switch, N.O. contact		80	80	80	80	80	80		
81 = pressure switch, N.C. contact		81	81	81	81	81	81		
86 = pressure switch, N.O. contact		86	86	86	86	86	86		
87 = pressure switch, N.C. contact		87	87	87	87	87	87		
P1 = SPDT, pressure switch		P1	P1	P1	P1	P1	P1		
P6 = SPDT, pressure switch		P6	P6	P6	P6	P6	P6		
ACCESSORIES									
W = without		W	W	W	W	W	W		
C = with paper air filter		C	C	C	C	C	C		
D = with metal air filter		D	D	D	D	D	D		
ACCESSORIES									
W = without		W	W	W	W	W	W		
H = with dipstick		H	H	H	H	H	H		

ACCESSORY

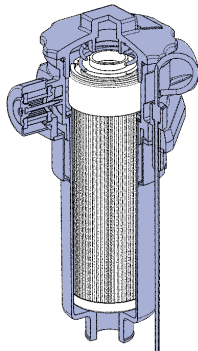


FILTER COMPLETE



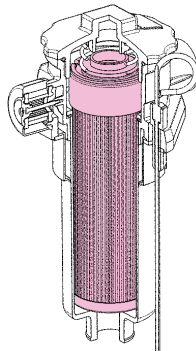
FIRB

FILTER HOUSING



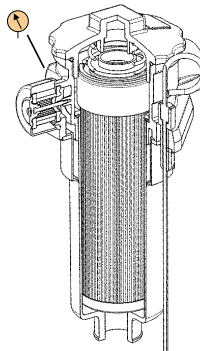
BIRB

FILTER ELEMENT



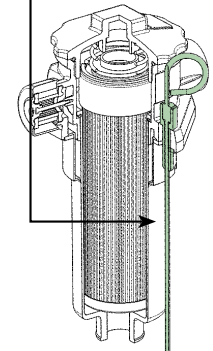
ERB IN

CLOGGING INDICATOR



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ACCESSORY



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