

# RH

## MATERIALS

Head and cover:  
Aluminium alloy

Bowl:  
Polyamide

Bypass valve:  
Polyamide

Seals:  
NBR Nitrile  
FKM Fluoroelastomer on request

Indicator housing:  
Brass

## PRESSURE (ISO 10771-1:2002)

Max working:  
300 kPa (3 bar)

Test:  
500 kPa (5 bar)

Bursting:  
1 MPa (10 bar)

Collapse, differential  
for the filter element (ISO 2941):  
300 kPa (3 bar)

## BYPASS VALVE

Setting:  
170 kPa (1,7 bar)  $\pm$  10%

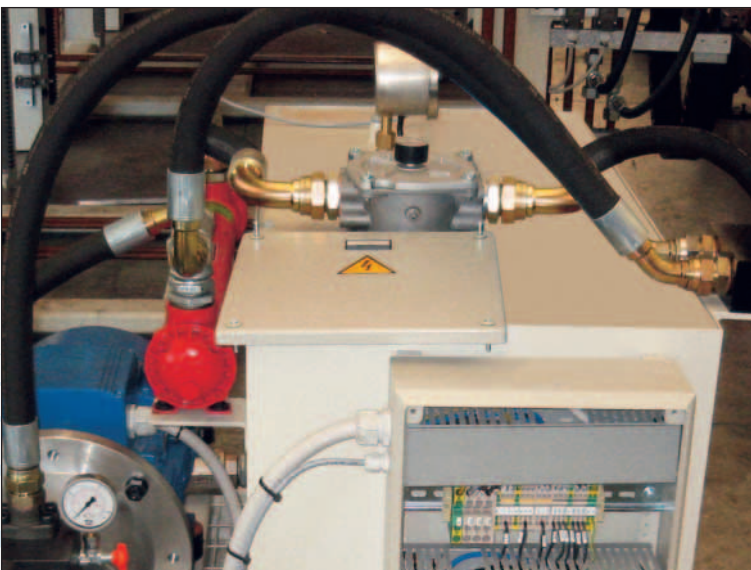
## WORKING TEMPERATURE

From -25° to + 110° C

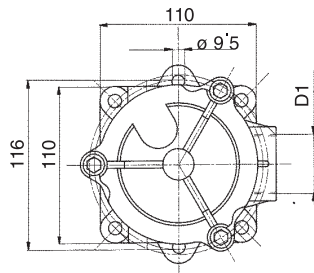
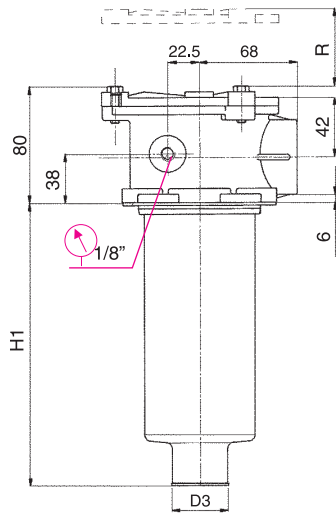
## COMPATIBILITY (ISO 2943:1999)

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.

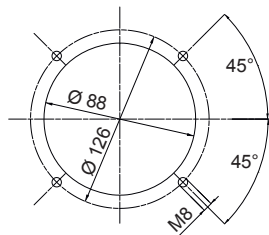
## APPLICATION EXAMPLE



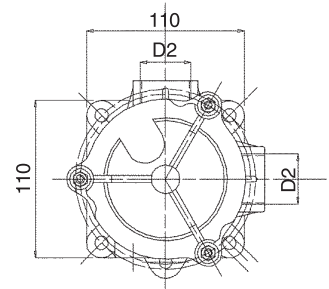
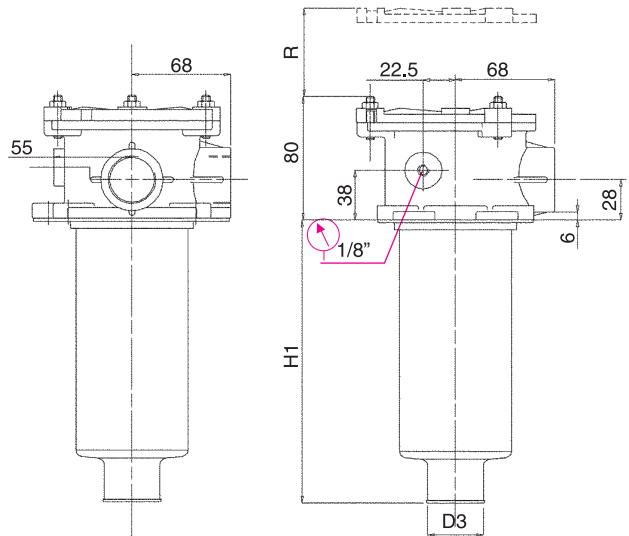
**FRH 31 - 32 - 33  
SINGLE PORT**



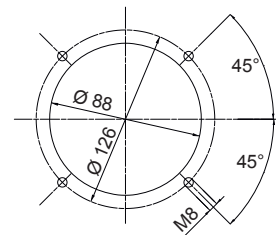
Tank mounting pattern



**FRH 31 - 32 - 33  
DOUBLE PORT**



Tank mounting pattern



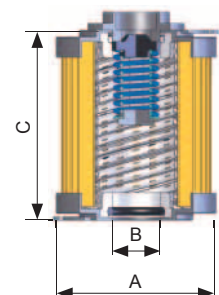
## FILTER HOUSING

	D1	D2	D3	H1	R	kg
FRH31	3/4" - 1" - 1" 1/4	1"	27	106	165	0,95
FRH32	3/4" - 1" - 1" 1/4	1"	27	152	205	1,10
FRH33	3/4" - 1" - 1" 1/4	1"	40	235	285	1,25

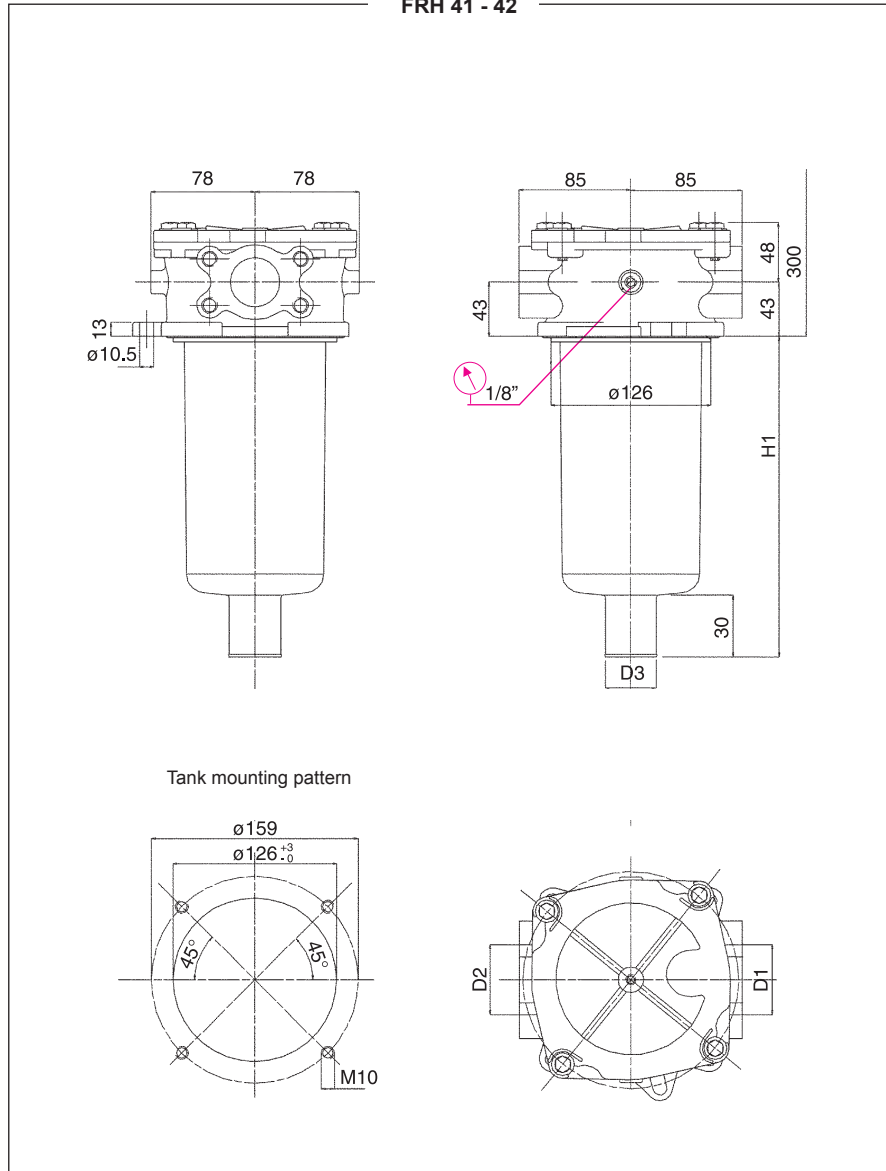
		<b>TYPE</b>				
		F = FILTER COMPLETE	F	F	F	
		B = FILTER HOUSING	B	B	B	<b>ELEMENT</b> E
R	H	<b>FAMILY,</b>			<b>FAMILY SIZE &amp; LENGTH</b> R A	
		NOMINAL SIZE & LENGTH	31	32	33	
		<b>PORT TYPE</b>				
		B = BSP thread	B	B	B	
		A = BSP thread (double port A08 only)	A	A	A	
		N = NPT thread	N	N	N	
		S = SAE thread	S	S	S	
		<b>PORT SIZE</b>				
		06 = 3/4"	06	06	06	
		08 = 1"	08	08	08	
		10 = 1" 1/4	10	10	10	
		<b>B BYPASS VALVE</b>				
		B = 170 kPa (1,7 bar)	B	B	B	
		<b>SEALS</b>			<b>SEALS</b>	
		N = NBR Nitrile	N	N	N	N = NBR
		F = FKM Fluoroelastomer	F	F	F	F = FKM
		<b>FILTER MEDIA</b>			<b>FILTER MEDIA</b>	
		FA = fiber 5 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FA	FA	FA	FA = fiber 5 $\mu\text{m}_{(e)}$
		FB = fiber 7 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FB	FB	FB	FB = fiber 7 $\mu\text{m}_{(e)}$
		FC = fiber 12 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FC	FC	FC	FC = fiber 12 $\mu\text{m}_{(e)}$
		FD = fiber 21 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FD	FD	FD	FD = fiber 21 $\mu\text{m}_{(e)}$
		CC = cellulose 10 $\mu\text{m}$ $\beta > 2$	CC	CC	CC	CC = cellulose 10 $\mu\text{m}$
		CD = cellulose 25 $\mu\text{m}$ $\beta > 2$	CD	CD	CD	CD = cellulose 25 $\mu\text{m}$
		ME = wire mesh 60 $\mu\text{m}$	ME	ME	ME	ME = wire mesh 60 $\mu\text{m}$
		<b>CLOGGING INDICATOR</b>				
		05 = nr. 2 x 1/8" ports, plugged	05	05	05	When the filter is ordered with FKM seals, the first digit of the indicator code is a letter (please see page 184 - 185).
		30 = pressure gauge, rear connection	30	30	30	
		P1 = SPDT, pressure switch	P1	P1	P1	
		<b>ACCESSORIES</b>				
		W = without	W	W	W	
		P = with filling plug	P	P	P	
X		<b>ACCESSORIES</b>				
		X = no other accessory available	X	X	X	

**FILTER ELEMENT**

	A	B	C	kg	Area (cm <sup>2</sup> )	
					Media F+	Media C+
ERA31	70	28	85	0,20	620	990
ERA32	70	28	130	0,25	1.000	1.600
ERA33	70	40	210	0,40	1.660	2.670



FRH 41 - 42



**FILTER HOUSING**

	D1	D2	D3	H1	R	kg
FRH41	1" 1/2	1 1/2"	40	248	289	2,40
FRH42	1" 1/2	1 1/2"	40	265	306	2,60

	<b>TYPE</b>			
	F = FILTER COMPLETE	F	F	
	B = FILTER HOUSING	B	B	<b>ELEMENT</b> E
R H	<b>FAMILY,</b>			<b>FAMILY SIZE &amp; LENGTH</b> R A
	<b>NOMINAL SIZE &amp; LENGTH</b>	41	42	
	<b>P PORT TYPE</b>			
	P = SAE flange 3000 psi, double port	P	P	
1 2	<b>PORT SIZE</b>			
	12 = 1 1/2"	12	12	
	<b>B BYPASS VALVE</b>			
	B = 170 kPa (1,7 bar)	B	B	
	<b>SEALS</b>			<b>SEALS</b>
	N = NBR Nitrile	N	N	N = NBR
	F = FKM Fluoroelastomer	F	F	F = FKM

	<b>FILTER MEDIA</b>			<b>FILTER MEDIA</b>
	FA = fiber 5 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FA	FA	FA = fiber 5 $\mu\text{m}_{(e)}$
	FB = fiber 7 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FB	FB	FB = fiber 7 $\mu\text{m}_{(e)}$
	FC = fiber 12 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FC	FC	FC = fiber 12 $\mu\text{m}_{(e)}$
	FD = fiber 21 $\mu\text{m}_{(e)}$ $\beta > 1.000$	FD	FD	FD = fiber 21 $\mu\text{m}_{(e)}$
	CC = cellulose 10 $\mu\text{m}$ $\beta > 2$	CC	CC	CC = cellulose 10 $\mu\text{m}$
	CD = cellulose 25 $\mu\text{m}$ $\beta > 2$	CD	CD	CD = cellulose 25 $\mu\text{m}$
	ME = wire mesh 60 $\mu\text{m}$	ME	ME	ME = wire mesh 60 $\mu\text{m}$

	<b>CLOGGING INDICATOR</b>		
	05 = nr. 2 x 1/8" ports, plugged	05	05
	30 = pressure gauge, rear connection	30	30
	P1 = SPDT, pressure switch	P1	P1

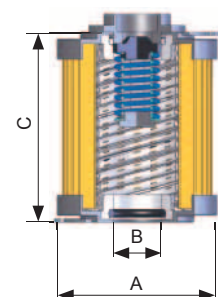
When the filter is ordered with FKM seals, the first digit of the indicator code is a letter (please see page 184 - 185).

	<b>ACCESSORIES</b>		
	W = without	W	W
	P = with filling plug	P	P

X	<b>ACCESSORIES</b>		
	X = no other accessory available	X	X

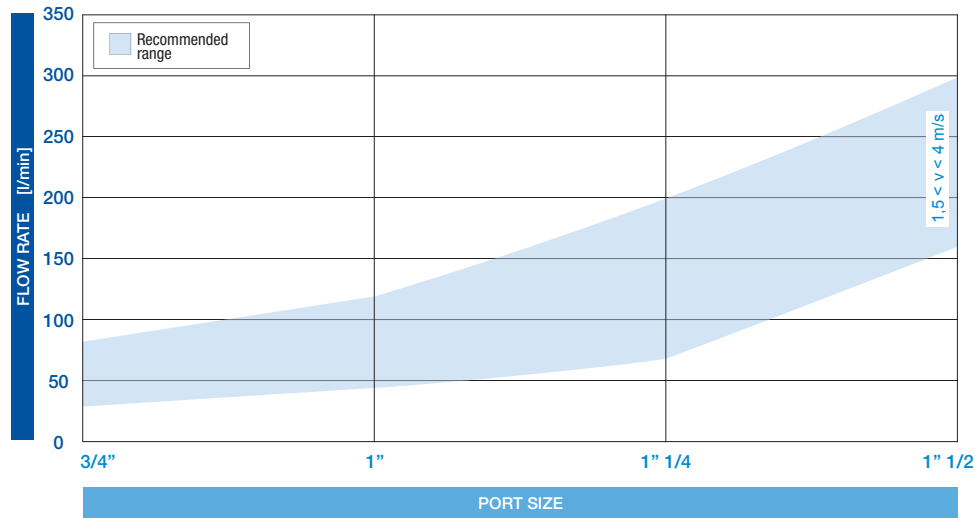
**FILTER ELEMENT**

	A	B	C	kg	Area (cm <sup>2</sup> )	
					Media F+	Media C+
ERA41	99	40	211	0,75	3.800	4.280
ERA42	99	40	250	0,90	4.550	5.100



## FLUID SPEED

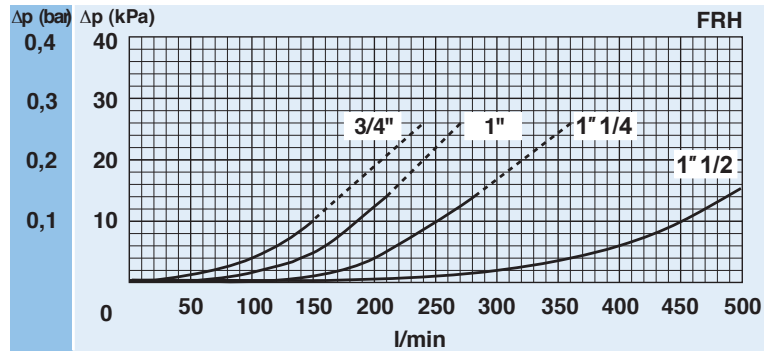
(when selecting the filter size, we suggest to consider also the max recommended fluid speed (in return lines normally  $1,5 < v < 4$  m/s)



## PRESSURE DROP CURVES ( $\Delta p$ )

The "Assembly Pressure Drop ( $\Delta p$ )" 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)

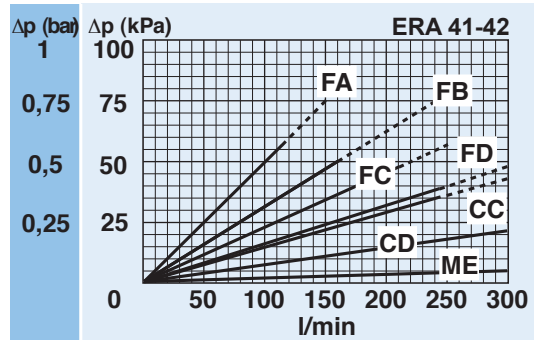
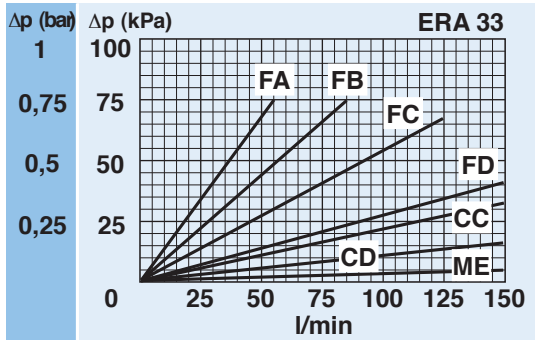
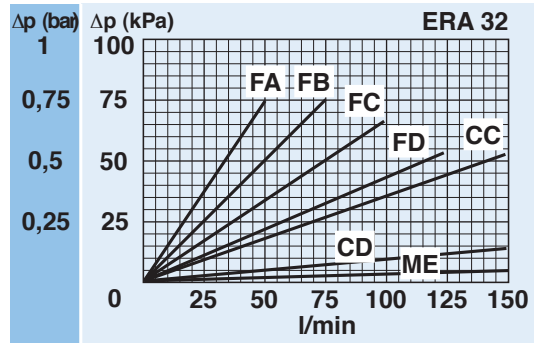
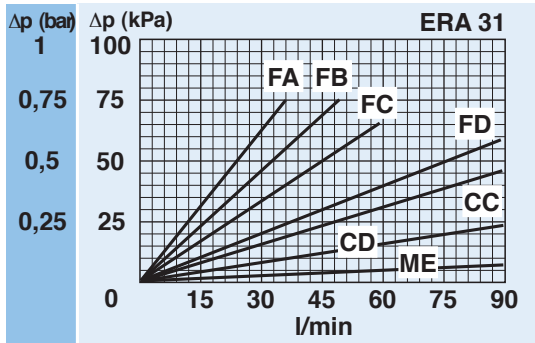


**PRESSURE DROP CURVES ( $\Delta p$ )**

The “Assembly Pressure Drop ( $\Delta p$ )” 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).

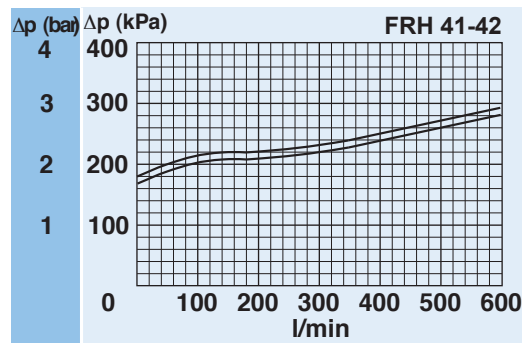
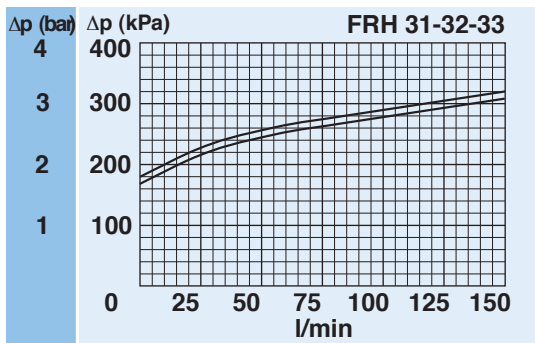
**CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND ME MEDIA**

(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.



N.B. All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0,9 kg/dm<sup>3</sup>; for fluids with different features, please consider the factors described in the first part of this catalogue. 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.

### 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.

### FILLING PLUG

The filling plug option gives the possibility of easily and efficiently filtering the oil from the drum.

### EASY REPLACEMENT

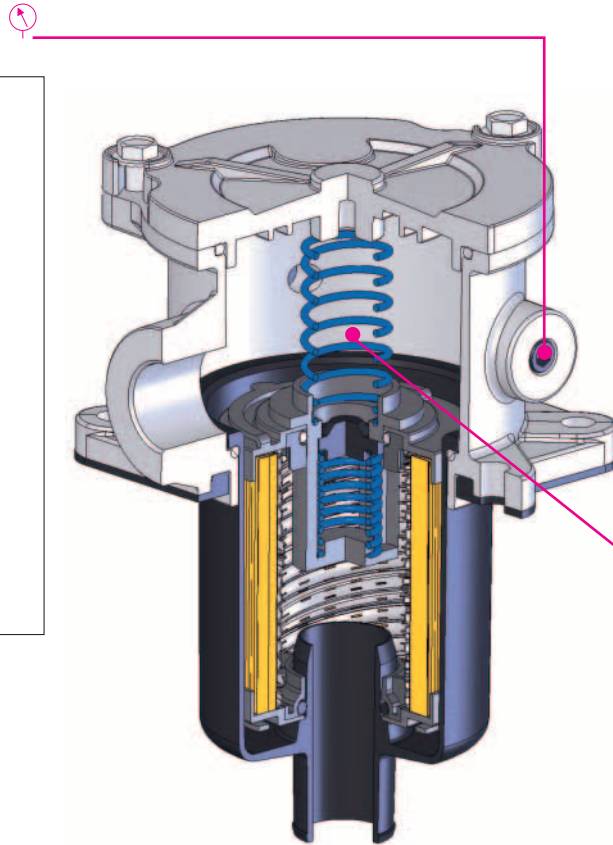
The top end cap includes a handle allowing an easy removal of the element and a complete cleaning of the bowl.

### NO LEAKS

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

### CLOGGING INDICATOR

For further technical informations and other options see page 184.



### SPARE SEAL KIT

	NBR	FKM
FRH31	521.0022.2	521.0059.2
FRH32	521.0022.2	521.0059.2
FRH33	521.0022.2	521.0059.2
FRH41	521.0060.2	521.0061.2
FRH42	521.0060.2	521.0061.2

### SPARE SPRING

FRH31	008.0267.1
FRH32	008.0267.1
FRH33	008.0267.1
FRH41	008.0151.1
FRH42	008.0151.1

### SPARE PARTS ELEMENTS

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

FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR	ACCESSORY
 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>	 <input type="checkbox"/>
B   R   H         B         X	E   R   A		FILLING PLUG

