



ORELL

RETURN FILTERS 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%

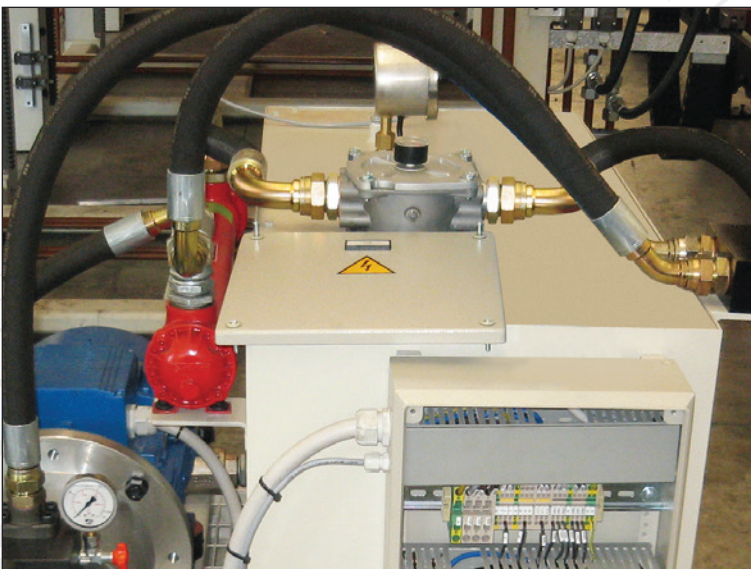
WORKING TEMPERATURE

From -25° to + 110° C

COMPATIBILITY (ISO 2943:1999)

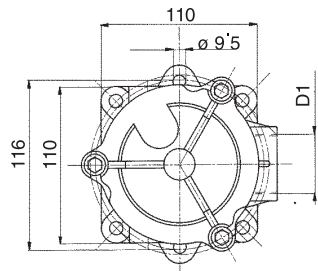
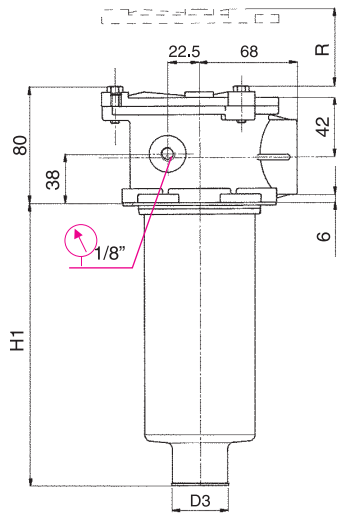
Full with fluids: HH-HL-HM-HV-HTG
(according to ISO 6743/4)
For fluids different than the above
mentioned, please contact our Sales
Department.

APPLICATION EXAMPLE

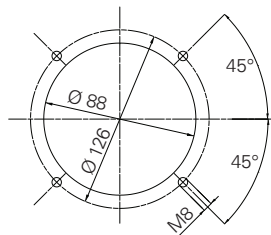


OHF 460

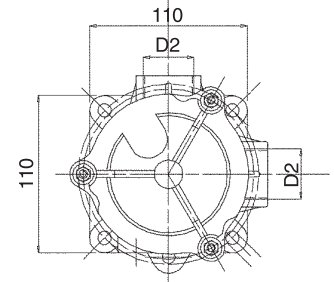
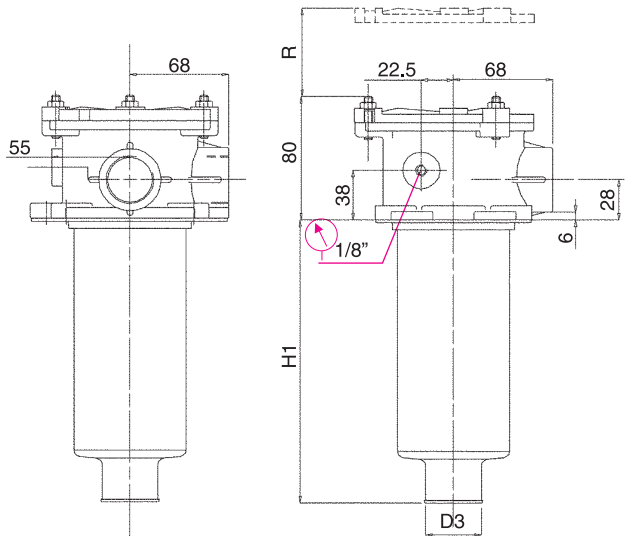
**FRH 31 - 32 - 33
SINGLE PORT**



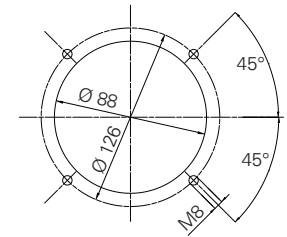
Tank mounting pattern



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



Tank mounting pattern



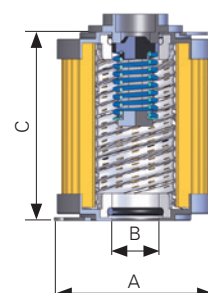
FILTER HOUSING

	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

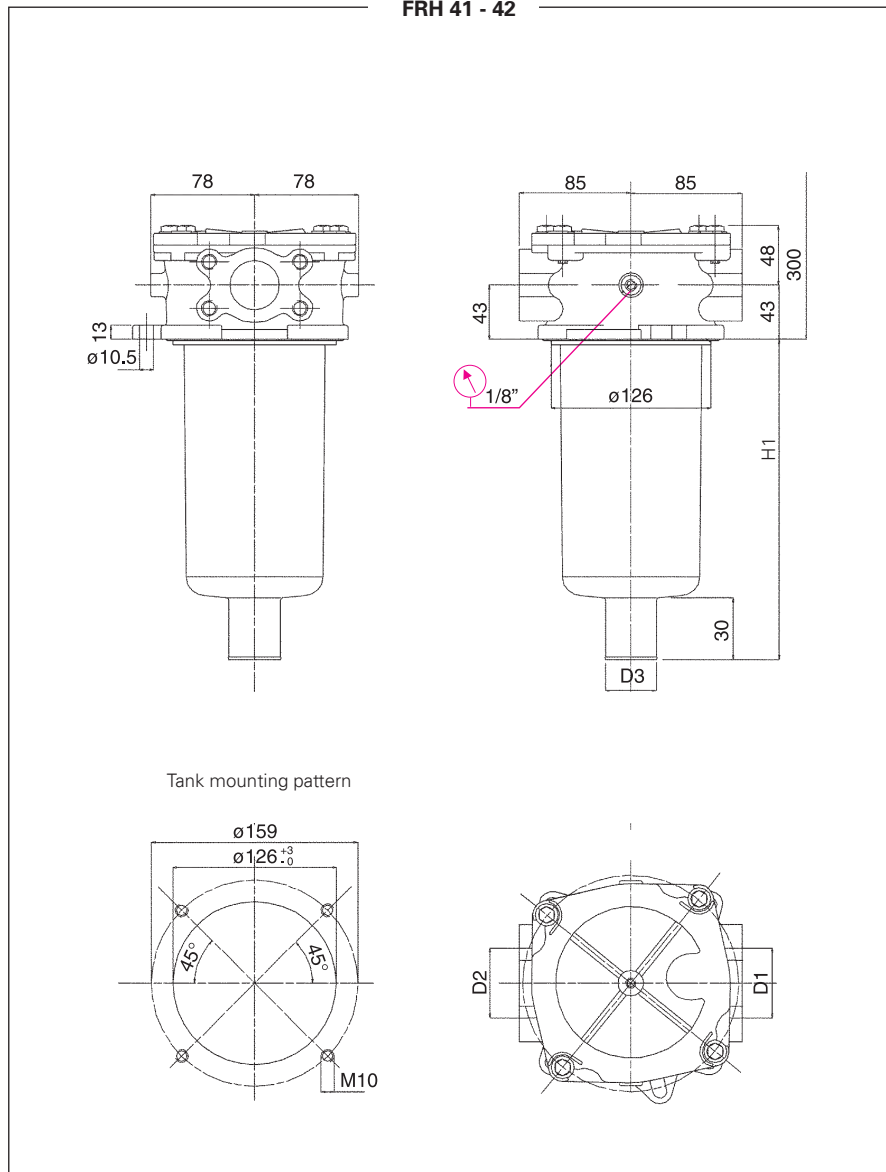
		TYPE				
		F = FILTER COMPLETE	F	F	F	
		B = FILTER HOUSING	B	B	B	ELEMENT E
R	H	FAMILY,				FAMILY SIZE & LENGTH R A
		NOMINAL SIZE & LENGTH	31	32	33	
		PORT TYPE				
		B = BSP thread	B	B	B	
		A = BSP thread (double port A08 only)	A	A	A	
		N = NPT thread	N	N	N	
		S = SAE thread	S	S	S	
		PORT SIZE				
		06 = 3/4"	06	06	06	
		08 = 1"	08	08	08	
		10 = 1 1/4"	10	10	10	
		BYPASS VALVE				
		B = 170 kPa (1,7 bar)	B	B	B	
		SEALS				SEALS
		N = NBR Nitrile	N	N	N	N = NBR
		F = FKM Fluoroelastomer	F	F	F	F = FKM
		FILTER MEDIA				FILTER MEDIA
		FA = fiber 5 μm _(c) β>1.000	FA	FA	FA	FA = fiber 5 μm _(c)
		FB = fiber 7 μm _(c) β>1.000	FB	FB	FB	FB = fiber 7 μm _(c)
		FC = fiber 12 μm _(c) β>1.000	FC	FC	FC	FC = fiber 12 μm _(c)
		FD = fiber 21 μm _(c) β>1.000	FD	FD	FD	FD = fiber 21 μm _(c)
		CC = cellulose 10 μm β>2	CC	CC	CC	CC = cellulose 10 μm
		CD = cellulose 25 μm β>2	CD	CD	CD	CD = cellulose 25 μm
		ME = wire mesh 60 μm	ME	ME	ME	ME = wire mesh 60 μm
		CLOGGING INDICATOR				
		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	
		ACCESSORIES				
		W = without	W	W	W	
		P = with filling plug	P	P	P	
		X ACCESSORIES				
		X = no other accessory available	X	X	X	

FILTER ELEMENT

	A	B	C	kg	Area (cm ²)	
					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

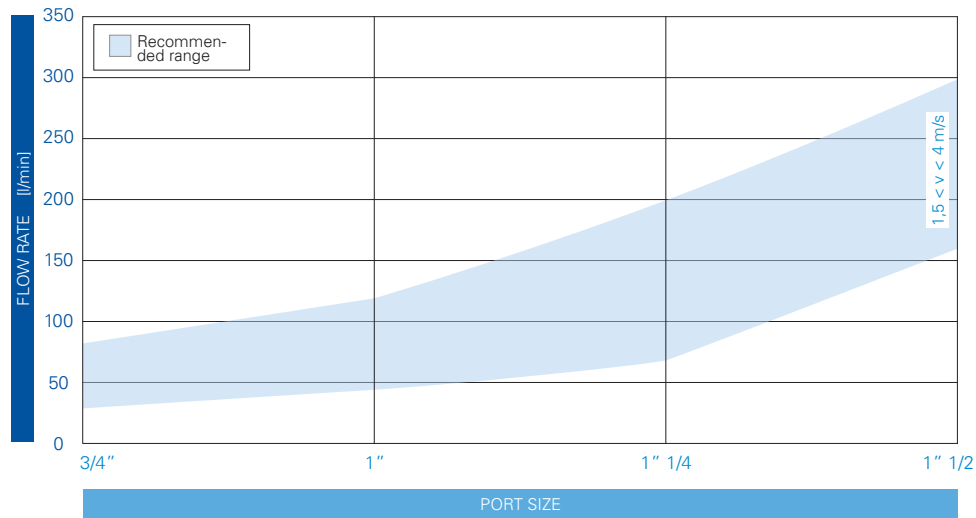
	D1	D2	D3	H1	R	kg
FRH41	1" 1/2	1 1/2"	40	248	289	2,40
FRH42	1" 1/2	1 1/2"	40	265	306	2,60

		TYPE			
		F = FILTER COMPLETE	F	F	
		B = FILTER HOUSING	B	B	ELEMENT E
R	H	FAMILY,			FAMILY SIZE & LENGTH R A
		NOMINAL SIZE & LENGTH	41	42	
		P PORT TYPE			
		P = SAE flange 3000 psi, double port	P	P	
1	2	PORT SIZE			
		12 = 1 1/2"	12	12	
		B BYPASS VALVE			
		B = 170 kPa (1,7 bar)	B	B	
		SEALS			SEALS
		N = NBR Nitrile	N	N	N = NBR
		F = FKM Fluoroelastomer	F	F	F = FKM
		FILTER MEDIA			FILTER MEDIA
		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 μm $\beta > 2$	CC	CC	CC = cellulose 10 μm
		CD = cellulose 25 μm $\beta > 2$	CD	CD	CD = cellulose 25 μm
		ME = wire mesh 60 μm	ME	ME	ME = wire mesh 60 μm
		CLOGGING INDICATOR			
		05 = nr. 2 x 1/8" ports, plugged	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	
		P1 = SPDT, pressure switch	P1	P1	
		ACCESSORIES			
		W = without	W	W	
		P = with filling plug	P	P	
X		ACCESSORIES			
		X = no other accessory available	X	X	

FILTER ELEMENT							
	A	B	C	kg	Area (cm ²)		
					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)

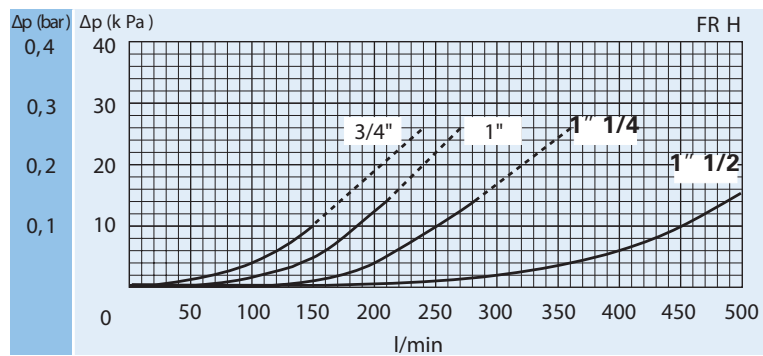


PRESSURE DROP CURVES (Δp)

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)

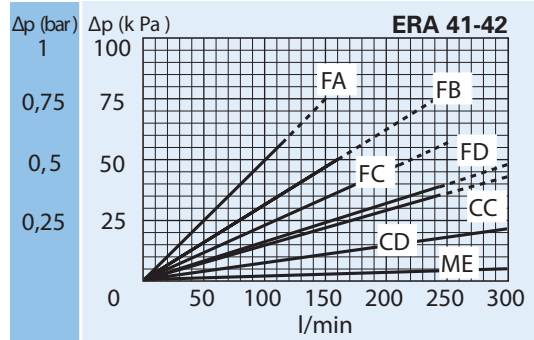
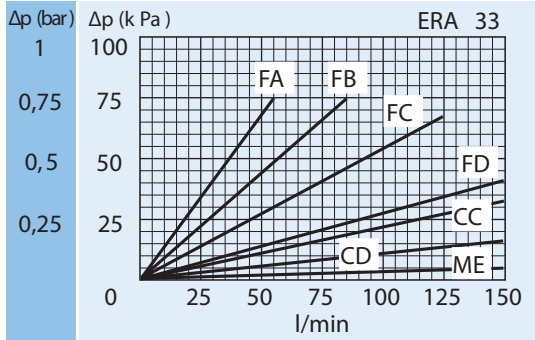
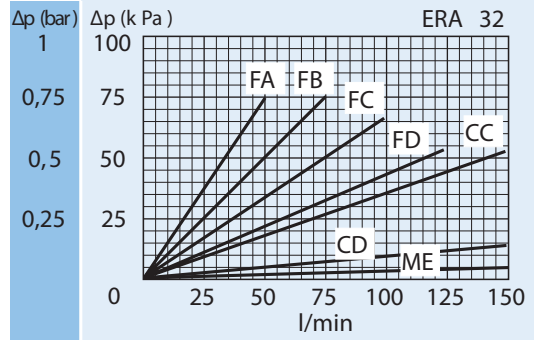
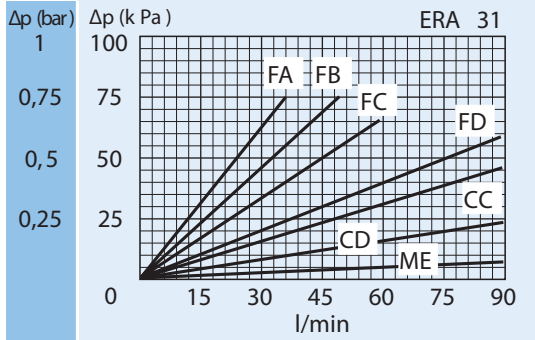


PRESSURE DROP CURVES (Δp)

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).

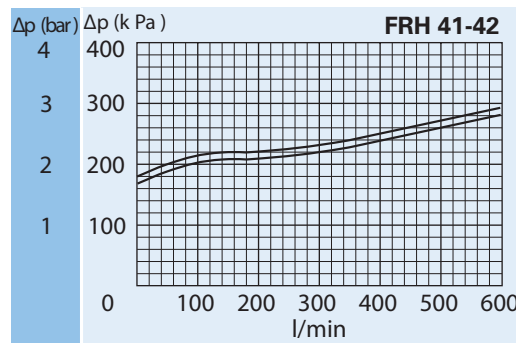
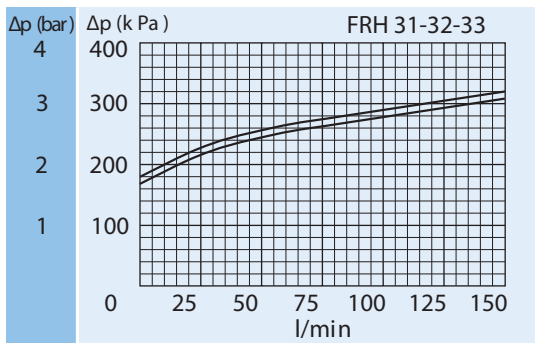
CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND ME MEDIA

(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/dm³; for fluids with different features, please consider the factors described in the first part of this catalogue.

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

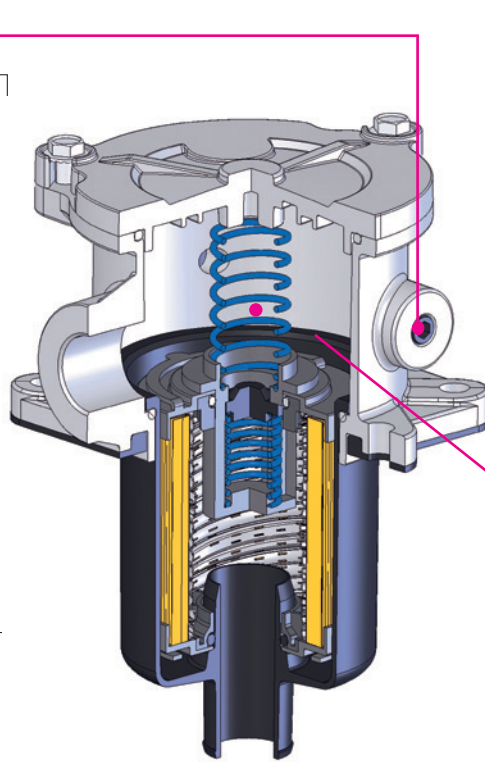
The top end cap includes a handle allowing an easy removal of the element and a complete cleaning of the bowl.

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"/>
			FILLING PLUG

Technical data subject to variations without prior notice. RH - EN - 03/2011