



ORELL

RETURN FILTERS RD



MATERIALS

Cover & housing:
Anodized aluminium alloy

For 61&62 only:
Cover: anodized aluminium alloy
Housing: steel

Bypass valve:
Polyamide

Seals:
NBR Nitrile
(FKM - on request fluoroelasto-
mer)

Indicator housing:
Brass

PRESSURE (ISO 10771-1:2002)

Max working:
2 MPa (20 bar)

Test:
3 MPa (30 bar)

Bursting:
6 MPa (60 bar)

Collapse, differential
for the filter element (ISO 2941):
1 MPa (10 bar)

APPLICATION EXAMPLE



BYPASS VALVE

Setting:
300 kPa (3 bar) $\pm 10\%$

WORKING TEMPERATURE

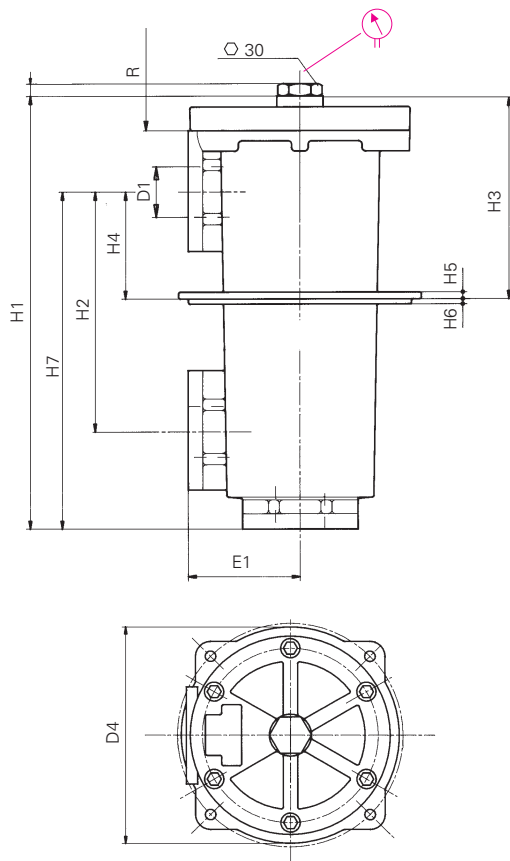
From -25° to $+ 110^{\circ}$ C

COMPATIBILITY (ISO 2943:1999)

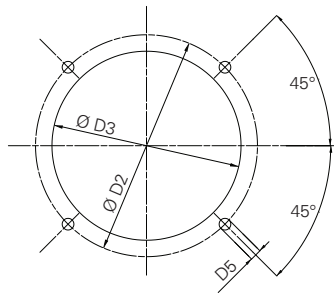
Full with fluids:
HH-HLHM-HV-HTG
(according to ISO 6743/4)
For fluids different than the above
mentioned, please contact our
Sales Department.

OHF 430

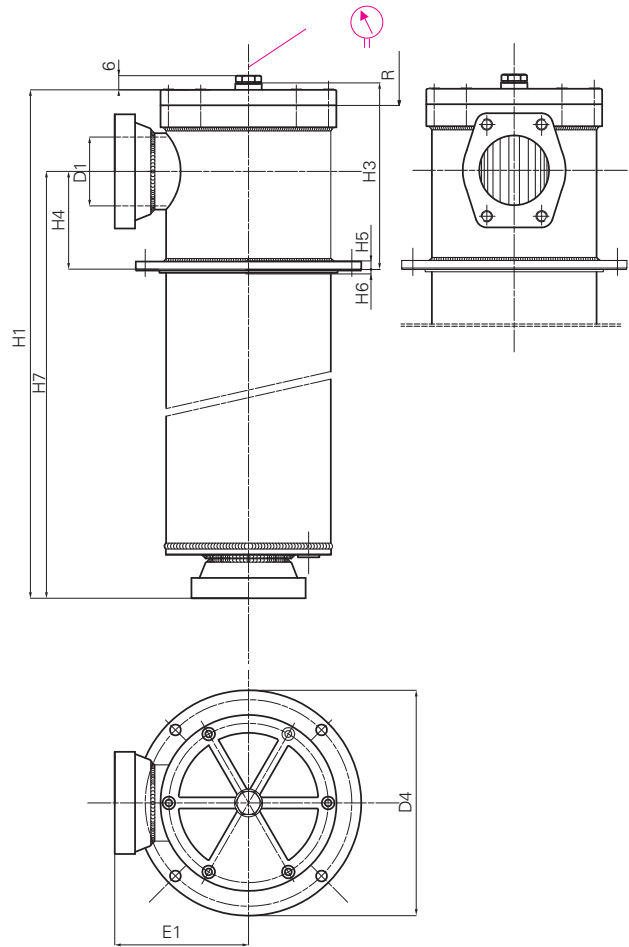
FRD 11-21-31-41-51



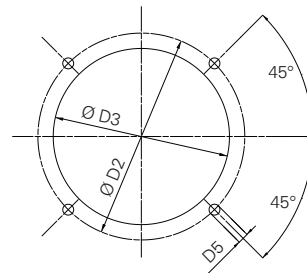
Tank mounting pattern



FRD 61- 62



Tank mounting pattern



(*) Adjustable for RD62 only - loose flange (to be welded)

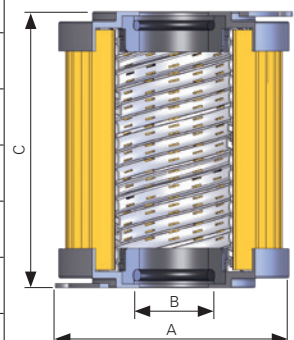
FILTER HOUSING

	D1	D2	D3	D4	D5	E1	H1	H2	H3	H4	H5	H6	H7	R	kg
FRD11	1/2"	95	85	90	M5	43	160	62,5	96	31,5	4	3	96	105	1,3
FRD21	3/4"	138	123	128	M6	57	191	105	100	52	6	3	145	110	2,6
FRD31	1"	154	137	147	M6	67	250	140	117	63	8	4	197	155	3,7
FRD41	1" 1/2	180	164	174	M8	82	343	177	155	82	8	4	269	240	6,5
FRD51	2" 1/2	275	239	254	M10	117,5	420	218	192	91	10	8	320	275	14,2
FRD61	3" 1/2	275	239	300	M12	178	673	-	248	130	10	5	-	525	49,0
FRD62	4"	275	239	300	M12	178	1.108	-	423*)	255	10	5	950	1.020	70,0

TYPE											
F = FILTER COMPLETE		F	F	F	F	F	F	F	ELEMENT		E
B = FILTER HOUSING		B	B	B	B	B	B	B	FAMILY SIZE & LENGTH		R D
R	D										
FAMILY NOMINAL SIZE & LENGTH		11	21	31	41	51	61	62			
PORT TYPE											
B = BSP thread		B	B	B	B	B	-	-			
N = NPT thread		N	N	N	N	N	-	-			
S = SAE thread		S	S	S	S	S	-	-			
F = SAE flange 3000 psi, metric screws		-	-	F	F	F	F	F			
PORT SIZE											
04 = 1/2"		04	-	-	-	-	-	-			
06 = 3/4"		-	06	-	-	-	-	-			
08 = 1"		-	-	08	-	-	-	-			
12 = 1" 1/2		-	-	-	12	-	-	-			
20 = 2" 1/2		-	-	-	-	20	-	-			
28 = 3" 1/2		-	-	-	-	-	28	-			
32 = 4"		-	-	-	-	-	-	32			
BYPASS VALVE											
W = without		W	W	W	W	W	W	W			
D = 300 kPa (3 bar)		D	D	D	D	D	D	D			
SEALS											
N = NBR Nitrile		N	N	N	N	N	N	N	SEALS		
F = FKM Fluoroelastomer		F	F	F	F	F	F	F	N = NBR		
									F = FKM		
FILTER MEDIA											
FA = fiber 5 μm _(e) β>1.000		FA	FA	FA	FA	FA	FA	FA	FILTER MEDIA		
FB = fiber 7 μm _(e) β>1.000		FB	FB	FB	FB	FB	FB	FB	FA = fiber 5 μm _(e)		
FC = fiber 12 μm _(e) β>1.000		FC	FC	FC	FC	FC	FC	FC	FB = fiber 7 μm _(e)		
FD = fiber 21 μm _(e) β>1.000		FD	FD	FD	FD	FD	FD	FD	FC = fiber 12 μm _(e)		
CC = cellulose 10 μm β>2		CC	CC	CC	CC	CC	CC	CC	FD = fiber 21 μm _(e)		
CD = cellulose 25 μm β>2		CD	CD	CD	CD	CD	CD	CD	CC = cellulose 10 μm		
MD = wire mesh 25 μm		MD	MD	MD	MD	MD	MD	MD	CD = cellulose 25 μm		
ME = wire mesh 60 μm		ME	ME	ME	ME	ME	ME	ME	MD = wire mesh 25 μm		
WR = water removal (*)		-	-	WR	WR	WR	WR	WR	ME = wire mesh 60 μm		
									WR = water removal		
CLOGGING INDICATOR											
03 = port, plugged		03	03	03	03	03	03	03	When the filter is ordered with FKM seals, the first digit of the indicator code is a letter (please see page 184 - 185).		
5C = visual differential 200 kPa (2 bar)		5C	5C	5C	5C	5C	5C	5C			
6C = electrical differential 200 kPa (2 bar)		6C	6C	6C	6C	6C	6C	6C			
7C = indicator 6C with LED		7C	7C	7C	7C	7C	7C	7C			
T1 = elect. diff. 200 kPa (2 bar) with thermostat 30°C		T1	T1	T1	T1	T1	T1	T1			
X	X	ACCESSORIES								N.B. Indicator series 71 only on request	
XX = no accessory available		XX	XX	XX	XX	XX	XX	XX			

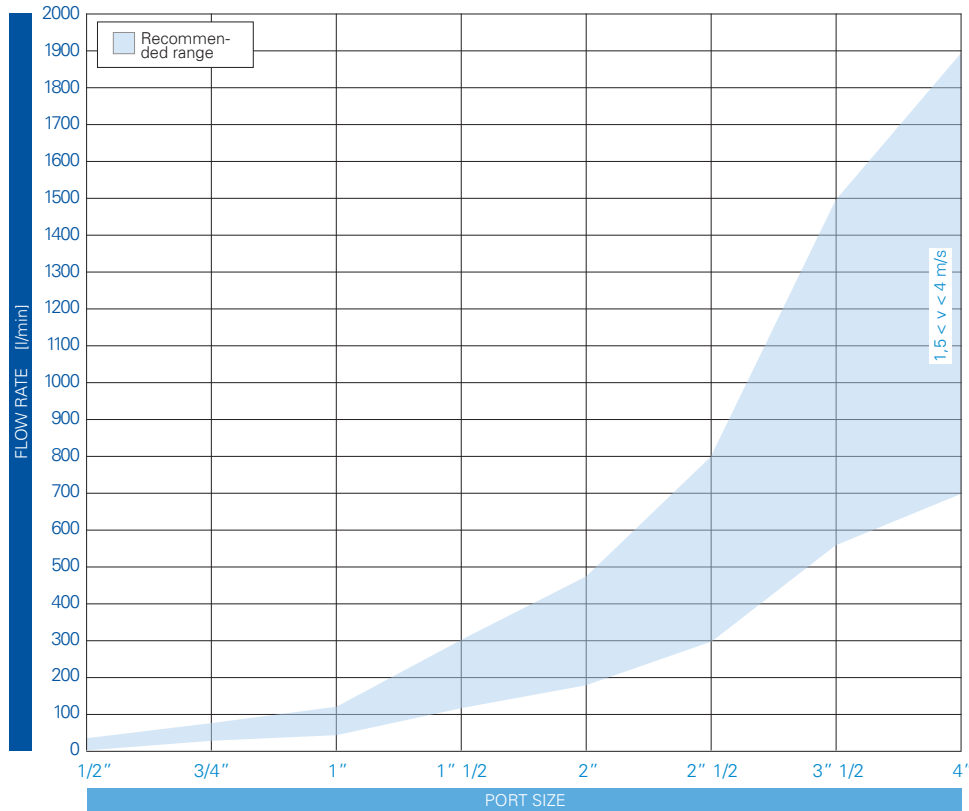
FILTER ELEMENT

	A	B	C	kg	Area (cm ²)		
					Media F+	Media C+	Media M+
ERD11	52	28/24	70	0,10	310	380	245
ERD21	70	34	85	0,20	620	990	460
ERD31	70	34	130	0,25	1.000	1.600	740
ERD41	99	51	211	0,70	3.800	4.280	2.330
ERD51	130	74	251	1,50	7.930	8.350	3.340
ERD61	130	74/85	500	2,00	16.720	17.600	9.860
ERD62	143	96,3	896	3,80	40.000	40.000	22.000



FLUID SPEED

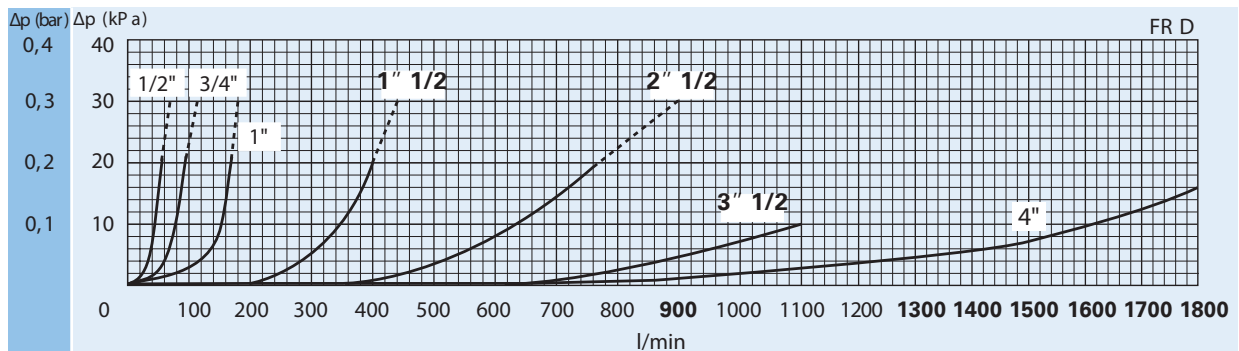
when selecting the filter size, we suggest to consider also the max recommended fluid speed (in return lines normally $1,5 < v < 4$ m/s)



PRESSURE DROP CURVES (Δp)

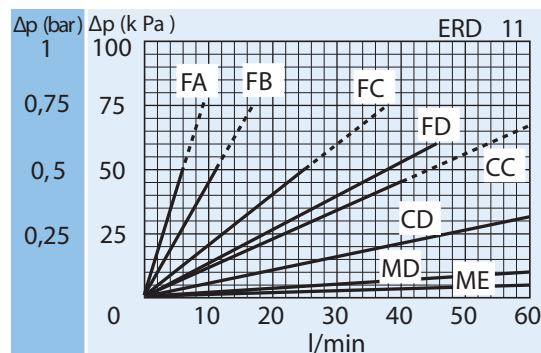
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 50 kPa (0,5 bar).

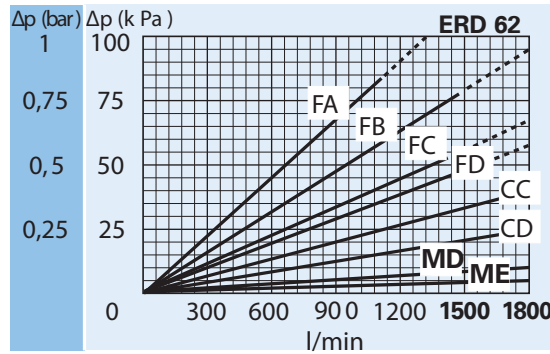
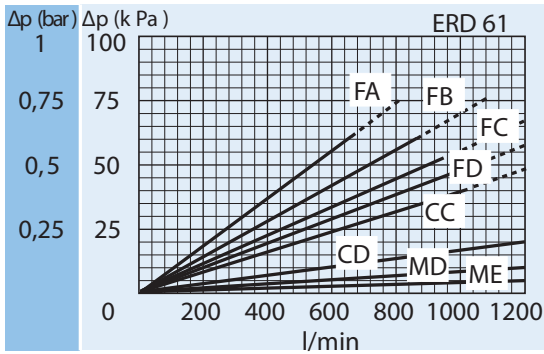
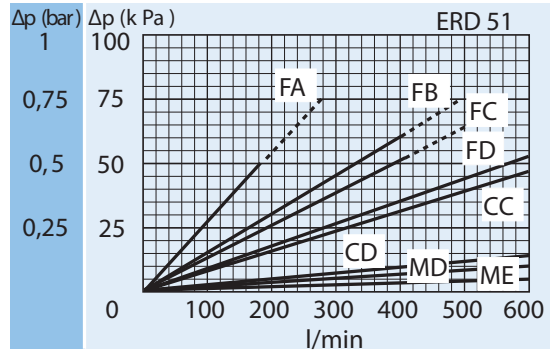
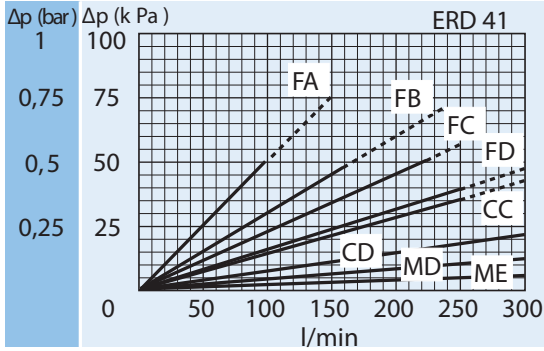
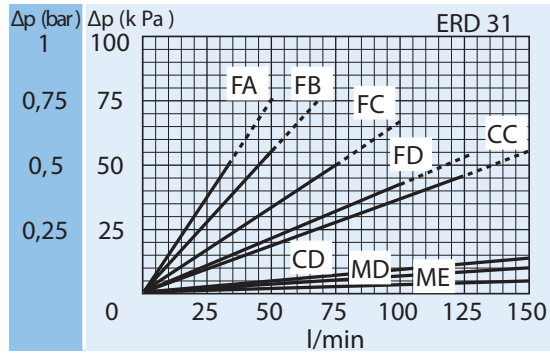
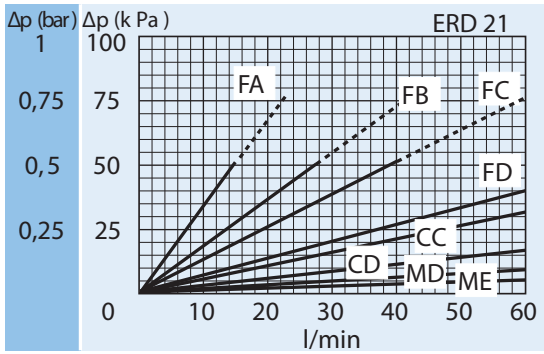
FILTER HOUSING PRESSURE DROP (mainly depending on the port size)



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

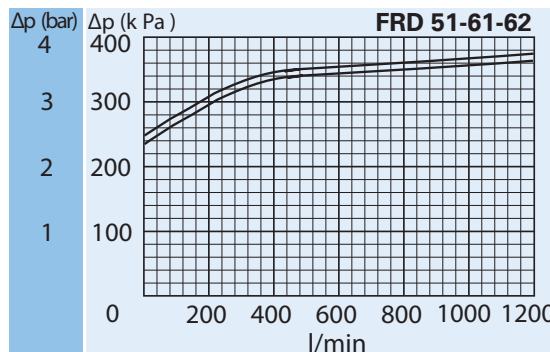
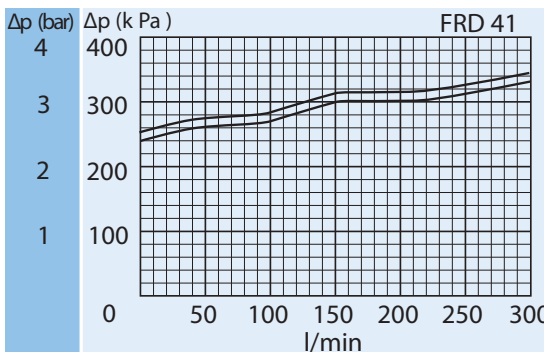
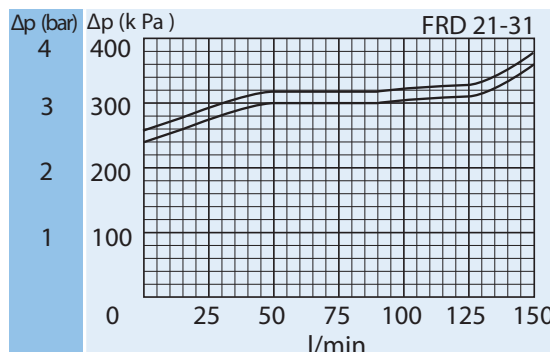
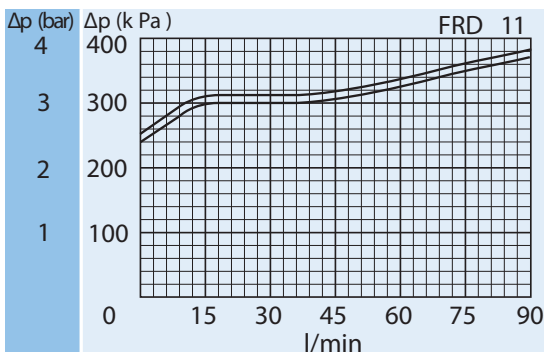
(depending both on the internal diameter of the element and on the filter media)





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.



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.

