RA

MATERIALS

Head and cover:
Aluminium alloy

Bowl :
Polyammide for FRA21-31-32-33-41
Zinc plated steel for FRA11-42-51-52-53-5D

Bypass valve:
Polyammide

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) ± 10%

WORKING TEMPERATURE

From -25° to +110° C

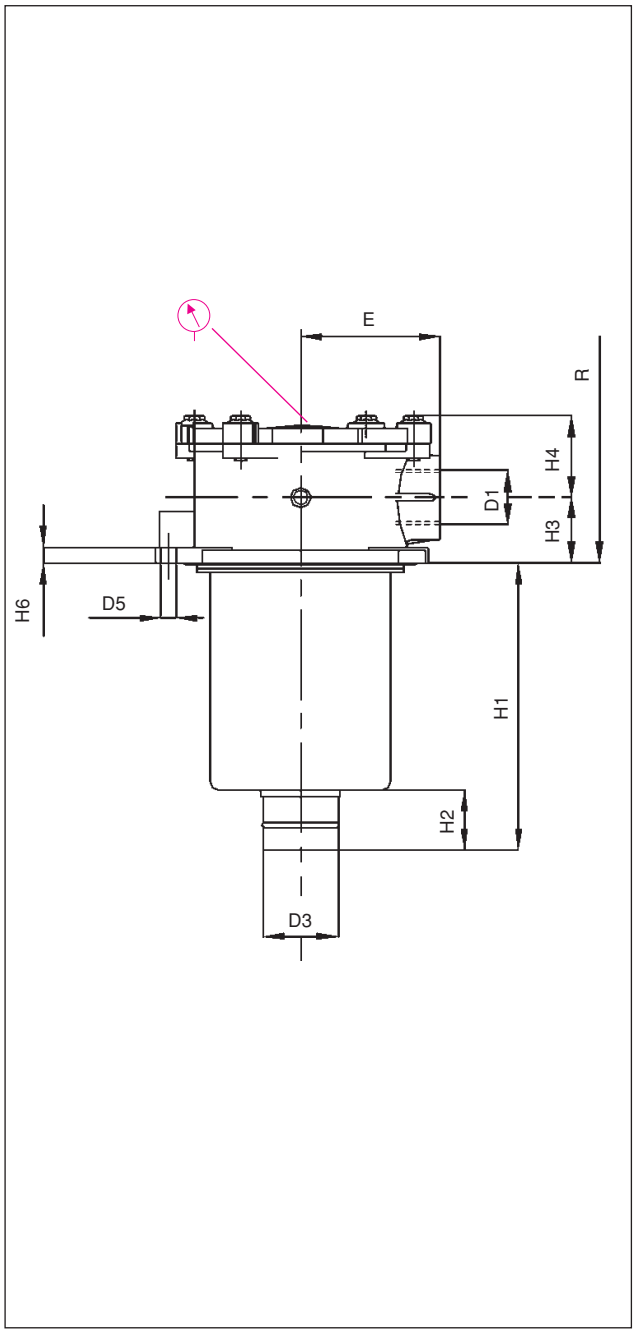
COMPATIBILITY (ISO 2943)

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.

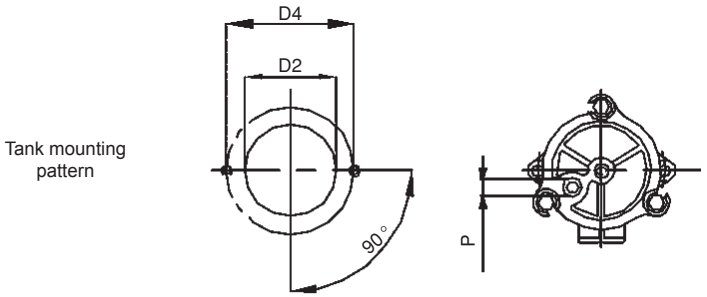
APPLICATION EXAMPLE

UFI FILTERS
HYDRAULIC DIVISION

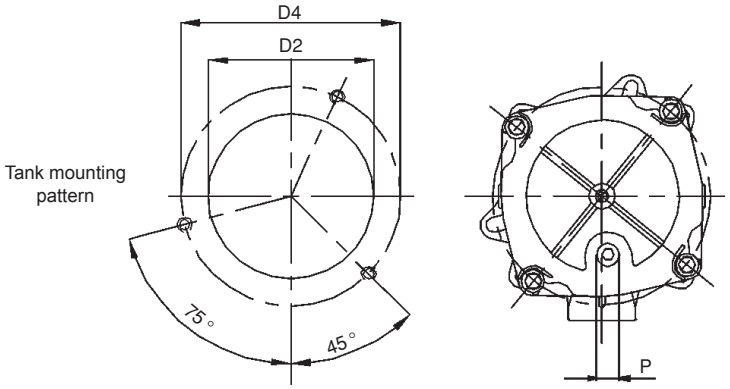
INSTALLATION DRAWING



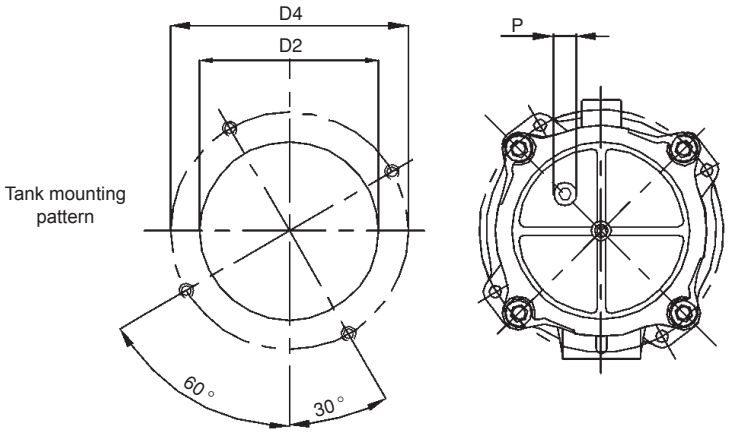
FRA 11 - 21 - 31 - 32 - 33



FRA 41 - 42



FRA 51 - 52 - 53 - 5D



FILTER HOUSING

	D1	min D2	max D2	D3	D4	D5	E	H1	H2	H3	H4	H6	P	R	kg
FRA11	3/8”	50	50	12	80	6,5	40	59	16	12	33	9	1/8”	90	0,30
FRA21	1/2”	67	68	24	90	6,5	50	80	20	22	33	9	3/8”	120	0,45
FRA31	1/2” - 3/4”	89	90	28	115	9	67	102	25	28	47	10	3/8”	150	0,80
FRA32	3/4” - 1”	89	90	28	115	9	67	150	25	28	47	10	3/8”	190	0,95
FRA33	3/4” - 1”	89	90	40	115	9	67	234	30	28	47	10	3/8”	270	1,10
FRA41	1”- 1”1/4 - 1”1/2	126	131	40	175	10,5	95	248	50	35	56	13	1/2”	289	2,10
FRA42	1”- 1”1/4 - 1”1/2	126	131	40	175	10,5	95	265	30	35	56	13	1/2”	306	2,30
FRA51	1”1/4 - 1”1/2 - 2” - 2”1/2	174	180	50	220	10,5	115	178	50	55	69	13	1/2”	250	3,10
FRA52	1”1/4 - 1”1/2 - 2” - 2”1/2	174	180	63,5	220	10,5	115	240	50	55	69	13	1/2”	315	3,60
FRA53	2” - 2”1/2	174	180	63,5	220	10,5	115	285	50	55	69	13	1/2”	355	4,10
FRA5D	2” - 2”1/2	174	180	63,5	220	10,5	115	300	50	55	69	13	1/2”	370	4,30

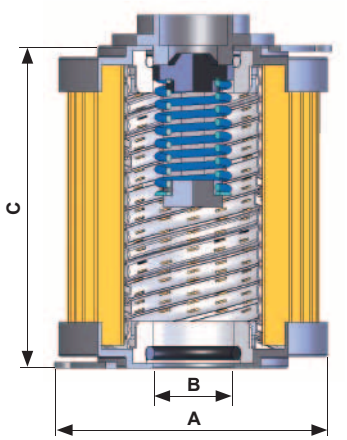
	TYPE												
	F = FILTER COMPLETE	F	F	F	F	F	F	F	F	F	F	F	
	B = FILTER HOUSING	B	B	B	B	B	B	B	B	B	B	B	ELEMENT E
R A	FAMILY, NOMINAL SIZE & LENGTH												FAMILY SIZE & LENGTH R A
		11	21	31	32	33	41	42	51	52	53	5D	
	PORT TYPE												
	B = BSP thread	B	B	B	B	B	B	B	B	B	B	B	
	N = NPT thread	N	N	N	N	N	N	N	N	N	N	N	
	S = SAE thread	-	S	S	S	S	S	S	S	S	S	S	
	F = SAE flange 3000 psi	-	-	-	-	-	-	-	F	F	F	F	
	PORT SIZE												
	03 = 3/8"	03	-	-	-	-	-	-	-	-	-	-	
	04 = 1/2"	-	04	04	-	-	-	-	-	-	-	-	
	06 = 3/4"	-	-	06	06	06	-	-	-	-	-	-	
	08 = 1"	-	-	-	08	08	08	08	-	-	-	-	
	10 = 1"1/4 (F10 not available)	-	-	-	-	-	10	10	10	10	-	-	
	12 = 1"1/2 (** F12 available for FRA4+ only)	-	-	-	-	-	(**)	(**)	12	12	-	-	
	16 = 2" (F16 not available)	-	-	-	-	-	-	-	16	16	16	16	
	20 = 2"1/2 (F20 only)	-	-	-	-	-	-	-	20	20	20	20	
B	BYPASS VALVE												
	B = 170 kPa (1,7 bar)	X	B	B	B	B	B	B	B	B	B	B	
	SEALS												SEALS
	N = NBR Nitrile	N	N	N	N	N	N	N	N	N	N	N	N = NBR
	F = FKM Fluoroelastomer	F	F	F	F	F	F	F	F	F	F	F	F = FKM
	FILTER MEDIA												FILTER MEDIA
	FA = fiber 5 $\mu m_{(c)}$ β>1.000	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA = fiber 5 $\mu m_{(c)}$
	FB = fiber 7 $\mu m_{(c)}$ β>1.000	FB	FB	FB	FB	FB	FB	FB	FB	FB	FB	FB	FB = fiber 7 $\mu m_{(c)}$
	FC = fiber 12 $\mu m_{(c)}$ β>1.000	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC = fiber 12 $\mu m_{(c)}$
	FD = fiber 21 $\mu m_{(c)}$ β>1.000	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD = fiber 21 $\mu m_{(c)}$
	CC = cellulose 10 μm β>2	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC = cellulose 10 μm
	CD = cellulose 25 μm β>2	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD	CD = cellulose 25 μm
	ME = wire mesh 60 μm	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME	ME = wiremesh 60 μm
	CLOGGING INDICATOR												
	01=1/8" port, plugged	01	01	01	01	01	01	01	01	01	01	01	
	30 = press. gauge, rear connection	30	30	30	30	30	30	30	30	30	30	30	
	32 = press. gauge, bottom connection	32	32	32	32	32	32	32	32	32	32	32	
	P1 = SPDT, press. switch	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	
	ACCESSORIES												
	W = without	W	W	W	W	W	W	W	W	W	W	W	
	P = with filling plug	P	P	P	P	P	P	P	P	P	P	P	
X	ACCESSORIES												
	X = no other accessory available	X	X	X	X	X	X	X	X	X	X	X	

(*) special mounting pattern, pls ask for relevant information

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

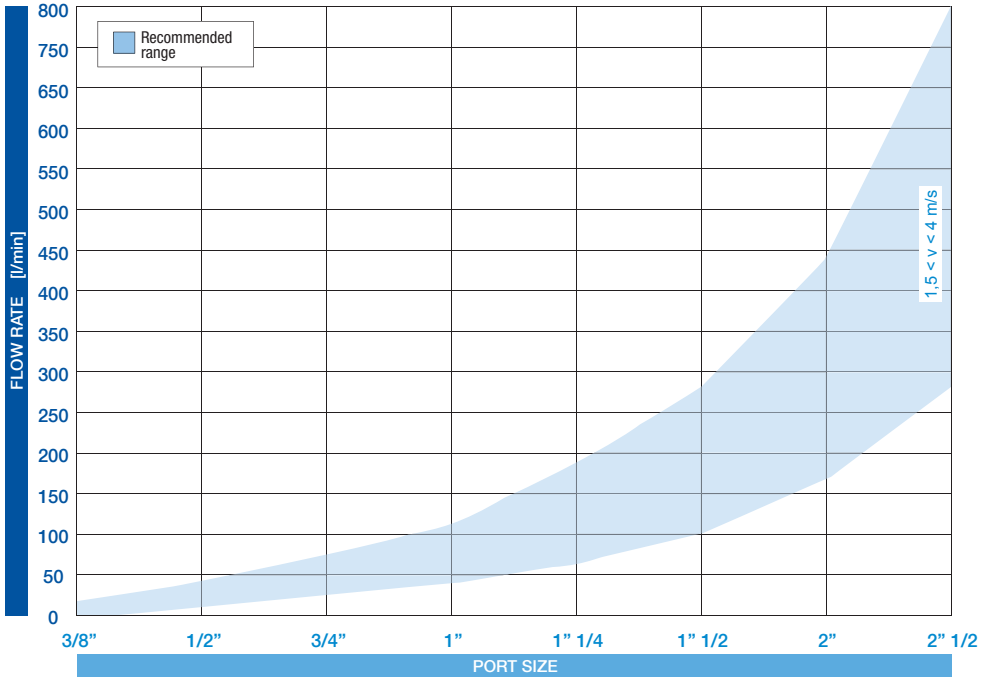
FILTER ELEMENT

	A	B	C	kg	Area (cm^2) Media F+	Area (cm^2) Media C+
ERA11	38	13	50	0,05	270	345
ERA21	52	24	70	0,10	310	380
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
ERA41	99	40	211	0,75	3.800	4.280
ERA42	99	40	250	0,90	4.550	5.100
ERA51	130	51	140	1,00	4.140	4.360
ERA52	130	63	200	1,35	6.190	6.520
ERA53	130	63	251	1,50	7.930	8.350
ERA5D	130	63	266	1,60	8.400	8.800



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)

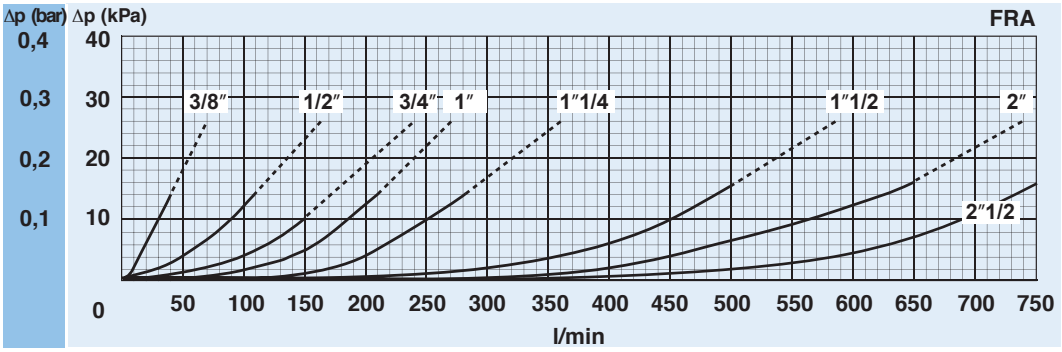


PRESSURE DROP CURVES (Δp)

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).

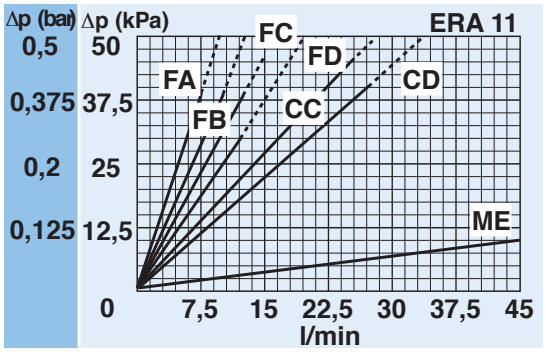
FILTER HOUSING PRESSURE DROP

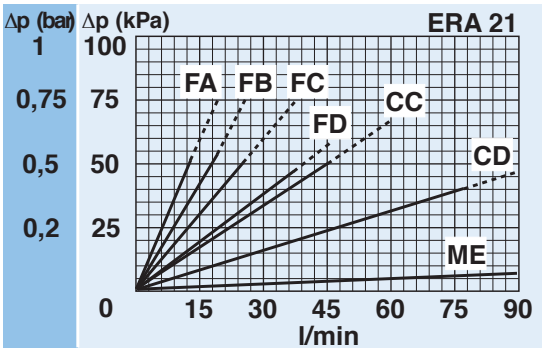
(mainly depending on the port size)

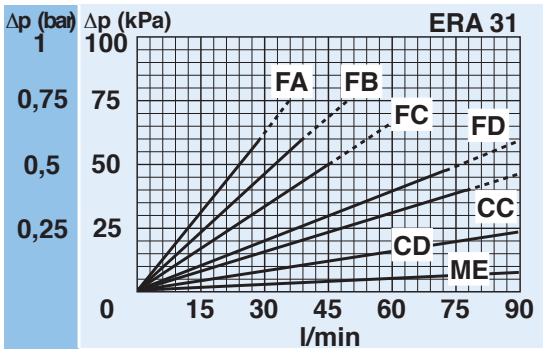


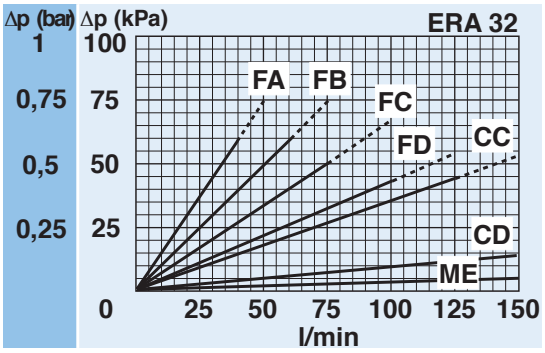
N.B. All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0,9 kg/dm^3; for fluids with different features, please consider the factors described in the first part of this catalogue. All the curves are obtained from test done at the UFI HYDRAULIC DIVISION Laboratory, according to the specification ISO 3968:2005. In case of discrepancy, please check the contamination level, viscosity and features of the fluid in use.

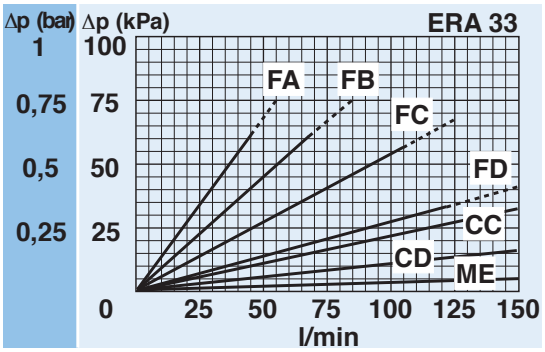
CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND ME MEDIA
(depending both on the internal diameter of the element and on the filter media)





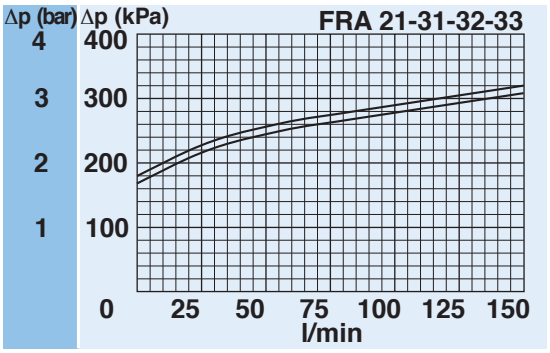






BYPASS VALVE PRESSURE DROP

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.



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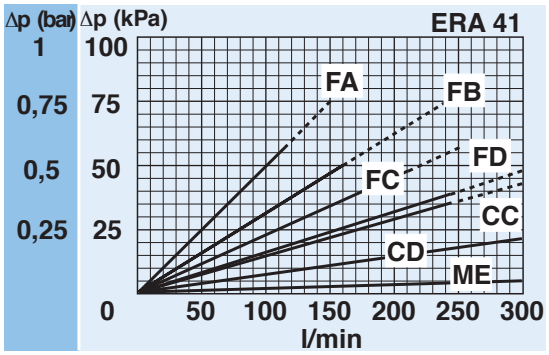
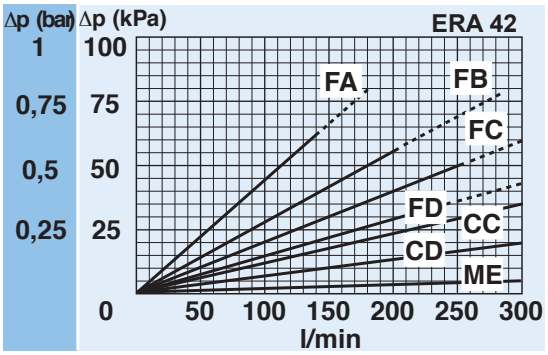
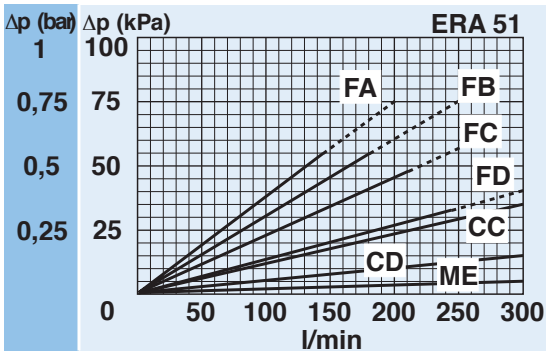
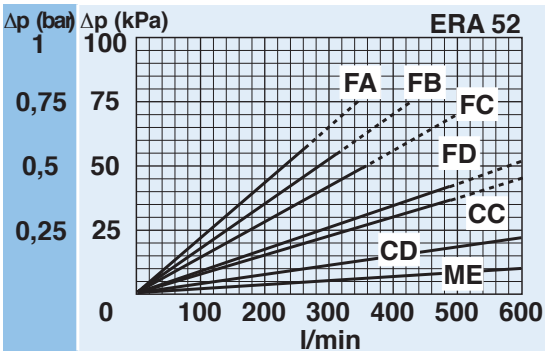
PRESSURE DROP CURVES (Δp)

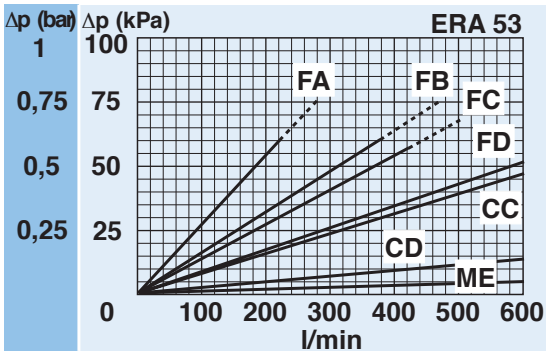
The “Assembly Pressure Drop (Δp)” is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 50 kPa (0,5 bar).

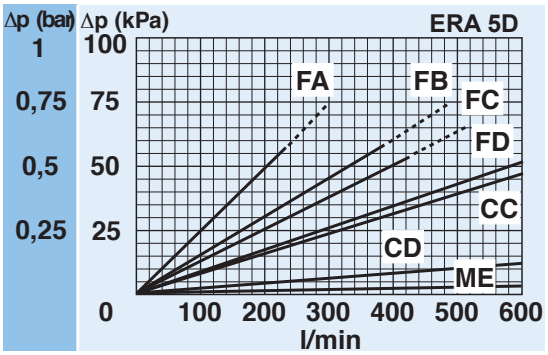






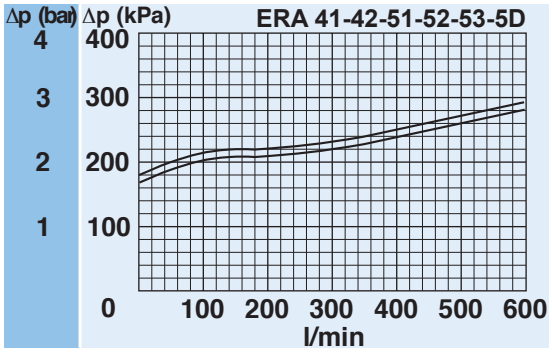






BYPASS VALVE PRESSURE DROP

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.



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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.

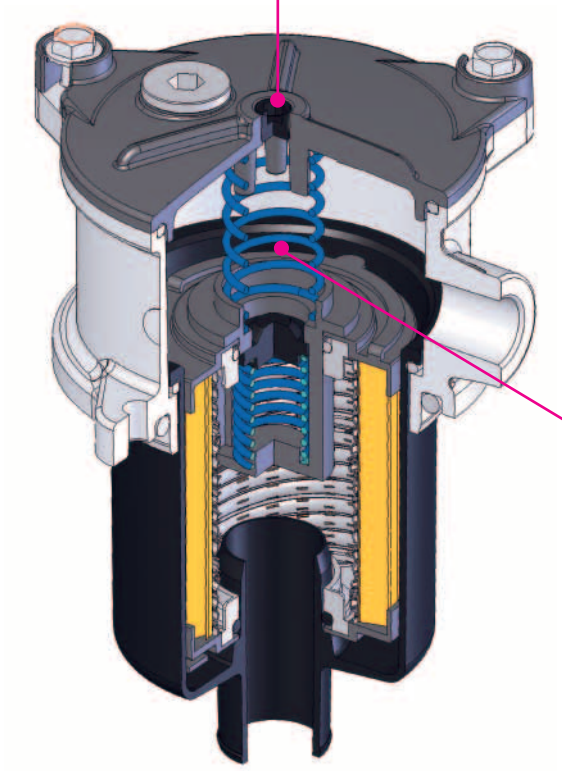
CLOGGING INDICATOR

For further technical informations and other options see page 184.

SERIES 30

SERIES 32

SERIES P1



SPARE SEAL KIT

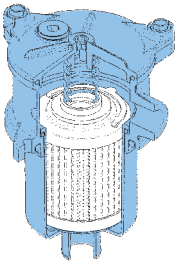
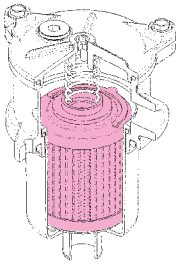
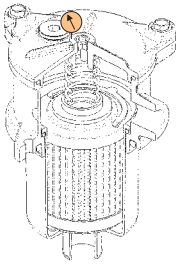
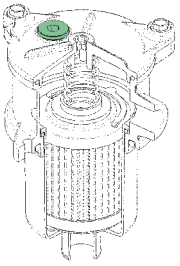
	NBR	FKM
FRA11	521.0032.2	521.0039.2
FRA21	521.0012.2	521.0040.2
FRA31	521.0013.2	521.0041.2
FRA32	521.0013.2	521.0041.2
FRA33	521.0013.2	521.0041.2
FRA41	521.0014.2	521.0043.2
FRA42	521.0014.2	521.0043.2
FRA51	521.0015.2	521.0044.2
FRA52	521.0015.2	521.0044.2
FRA53	521.0015.2	521.0044.2
FRA5D	521.0015.2	521.0044.2

SPARE SPRING

FRA11	008.0032.1
FRA21	008.0149.1
FRA31	008.0003.1
FRA32	008.0003.1
FRA33	008.0003.1
FRA41	008.0151.1
FRA42	008.0151.1
FRA51	008.0028.1
FRA52	008.0028.1
FRA53	008.0028.1
FRA5D	008.0028.1

SPARE PARTS ELEMENTS

(For filling up see table “Ordering and option chart”)

FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR	ACCESSORY
			
B R A _ _ _ _ _ B _ _ _ _ _ X	E R A _ _ _ _ _	_ _	_ X

FILLING PLUG

UFI FILTERS HYDRAULIC DIVISION

Is this datasheet the latest release? Please check on our website.