



FRC

RETURN FILTERS

DESCRIPTION

Tank top return spin-on filter

MATERIALS

Head: Aluminum alloy
Spin-on cartridge: Steel
Bypass valve: Polyamide
Seals: NBR Nitrile
Indicator housing: Brass

PRESSURE

Max. working: 700 kPa (7 bar)
Collapse, differential for the filter element (ISO 2941):
300 kPa (3 bar)

BYPASS VALVE

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

FLOW RATE

Qmax 200 l/min

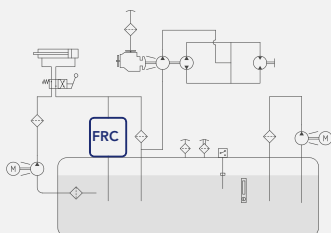
WORKING TEMPERATURE

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 Customer Service.

HYDRAULIC DIAGRAM



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

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ORDERING AND OPTION CHART

F	R	C	COMPLETE FILTER FAMILY					FILTER ELEMENT FAMILY	E	R	C
			SIZE & LENGTH	11	12	21	22	SIZE & LENGTH			
		B	PORT TYPE								
			B = BSP thread	B	B	B	B				
			PORT SIZE								
			06 = 3/4"	06	06	-	-				
			12 = 1"1/2"	-	-	12	12				
		B	BYPASS VALVE								
			B = 170 kPa (1,7 bar) with anti-drain membrane	B	B	B	B				
		N	SEALS					SEALS			
			N = NBR Nitrile	N	N	N	N				
			FormulaUFI MEDIA					FormulaUFI MEDIA			
			FB = FormulaUFI.MICRON 7 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FB	FB	FB	FB				
			FC = FormulaUFI.MICRON 12 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FC	FC	FC	FC				
			FD = FormulaUFI.MICRON 21 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FD	FD	FD	FD				
			CC = FormulaUFI.CELL 10 μm $\beta > 2$	CC	CC	CC	CC				
			CD = FormulaUFI.CELL 25 μm $\beta > 2$	CD	CD	CD	CD				
			CLOGGING INDICATOR								
			05 = nr. 2 x 1/8" ports, plugged	05	05	05	05				
			30 = pressure gauge, rear connection	30	30	30	30				
			P1 = SPDT pressure switch	P1	P1	P1	P1				
X	X		ACCESSORIES								
			XX = no accessory available	XX	XX	XX	XX				

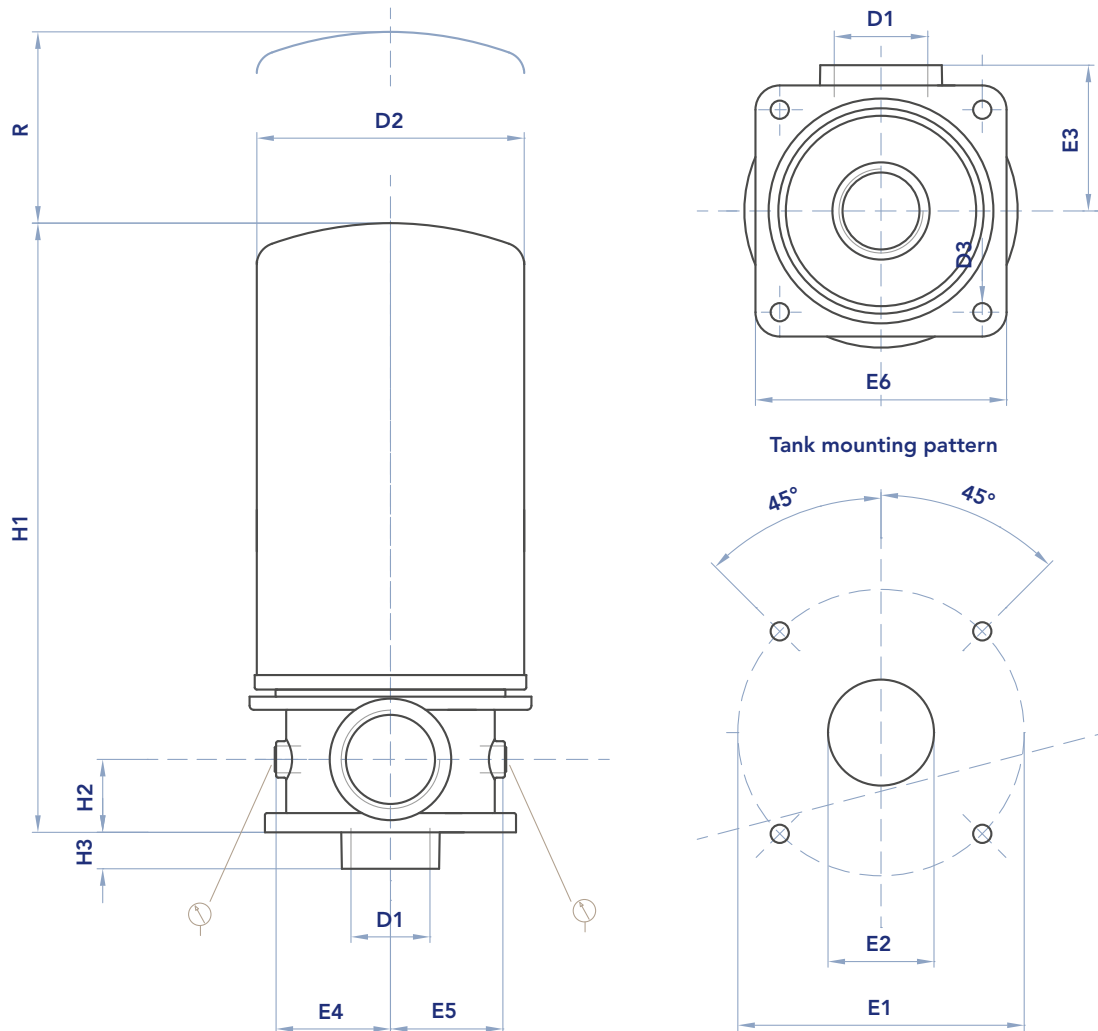
SPARE PARTS

FILTER HOUSING				FILTER ELEMENT				CLOGGING INDICATOR					
B	R	C		B		B	N					X	X
				E	R	C		N					

SPARE SEAL KIT

NBR		NBR	
FRC11 - 12	521.0018.2	FRC21 - 22	521.0036.2

INSTALLATION DRAWING



FILTER HOUSING

	D1	D2	D3	H1	H2	H3	E1	E2	E3	E4	E5	E6	R	Kg
FRC11	3/4"	96	7	196	25	18	99	40÷45	50	38	38	90	15	1,3
FRC12	3/4"	96	7	241	25	18	99	40÷45	50	38	38	90	15	1,6
FRC21	1"1/2	129	9	252	36	18	141	65÷70	72	56	56	124	30	2,1
FRC22	1"1/2	129	9	297	36	18	141	65÷70	72	56	56	124	30	2,2

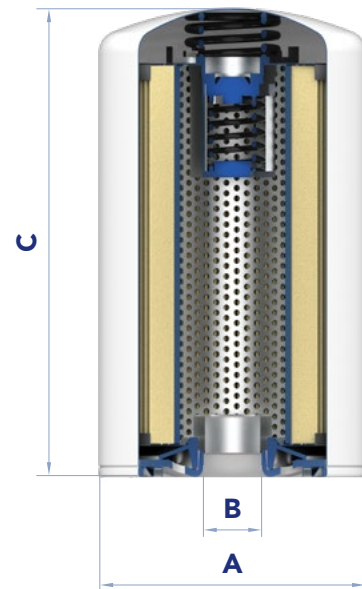
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FILTER ELEMENT

	A	B	C	Kg	AREA (cm ²)	
					Media F+	Media C+
ERC11	96,5	3/4" BSP	146	1,00	2.600	3.100
ERC12	96,5	3/4" BSP	191	1,20	3.630	4.745
ERC21	129	1"1/4 BSP	181	1,40	4.450	5.560
ERC22	129	1"1/4 BSP	226	1,50	5.088	7.360



MAINTENANCE

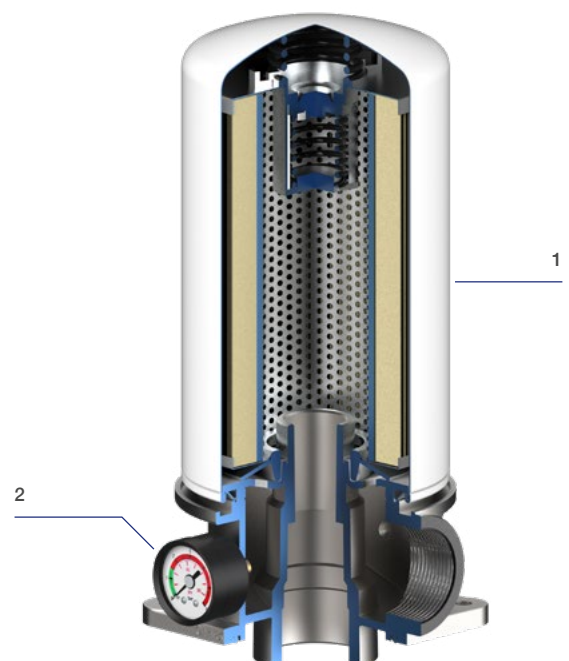
- 1) Stop the system and verify there is no pressure in the filter.
- 2) Collect the oil inside the filter with a suitable container.
- 3) Unscrew the dirty filter element (1).
N.B. The exhausted filter elements and the oil dirty filter parts are classified "Dangerous waste material" and must be disposed of according to the local laws, by authorized Companies.
- 4) Check the filter element part number on the silk-screen printing or in the ordering and option chart.
Use only original spare parts.
- 5) Lubricate the element o-ring gasket with oil.
- 6) Screw the clean filter element until the first contact of the gasket with the flange.
- 7) Tighten strongly for 3/4 of a turn (indicative tightening torque of 18 Nm).

Accessories:

Clogging indicator.

If damaged, unscrew and replace it (check the part number in the ordering and option chart).

Apply a thread-sealing and screw until tight. N.B. An over-tightening can damage the thread.



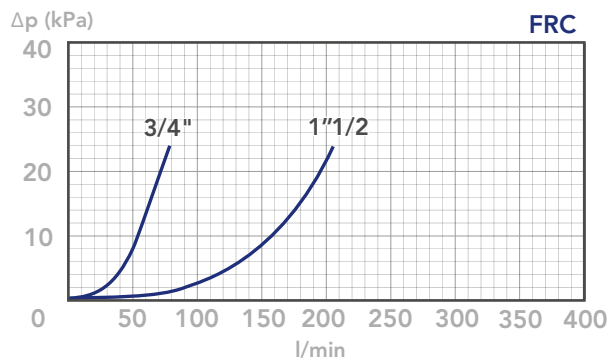


PRESSURE DROP CURVES (ΔP)

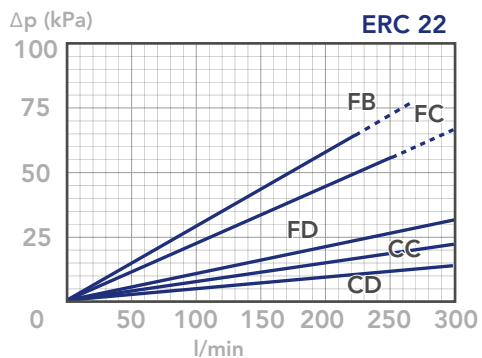
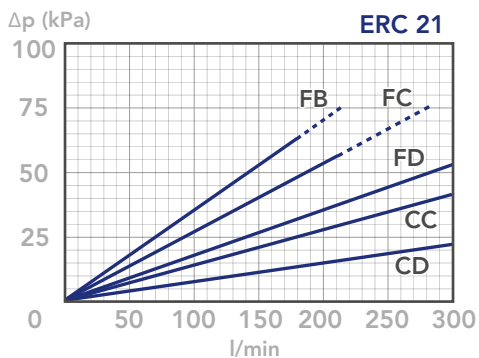
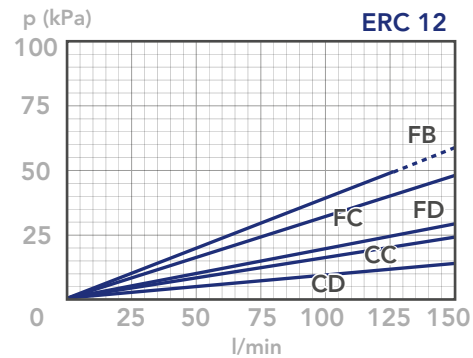
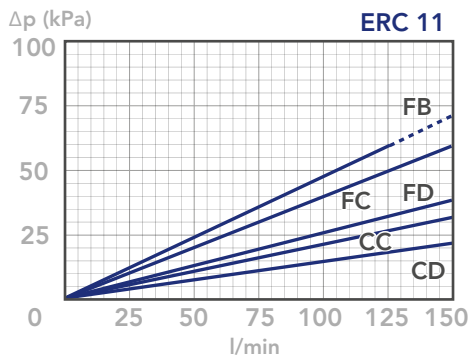
The “Assembly Pressure Drop (Δp)” is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must

be lower than 50 kPa (0,5 bar). In any case this value should never exceed 1/3 of the bypass valve setting.

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)

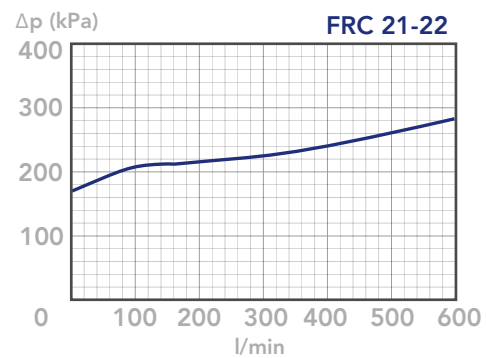
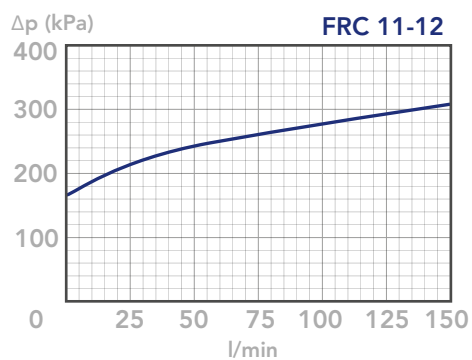


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BYPASS VALVE PRESSURE DROP

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 0,86 kg/dm³; 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 FILTERS HYDRAULICS Laboratory, according to the specification ISO 3968. In case of discrepancy, please check the contamination level, viscosity and features of the fluid in use.