



FPO

PRESSURE FILTERS



DESCRIPTION

High pressure spin-on filter

MATERIALS

Head: Aluminum alloy
Spin-on housing: Steel
Bypass valve: Polyamide
Seals: NBR Nitrile (FKM Fluoroelastomer on request)
Indicator housing: Brass

PRESSURE

Max working: 3,5 MPa (35 bar) for FPO1+
and 2,5 MPa (25 bar) for FPO2+
Collapse, differential for the filter element: 1 MPa (10 bar)

BYPASS VALVE

Setting:
170 kPa (1,7 bar) \pm 10%
350 kPa (3,5 bar) \pm 10%

FLOW RATE

Qmax 250 l/min

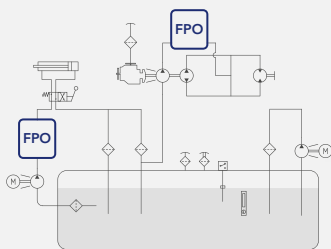
WORKING TEMPERATURE

From -25° to +110° C

COMPATIBILITY (ISO 2943)

Full with fluids: HH-HL-HM-HR-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



FPO

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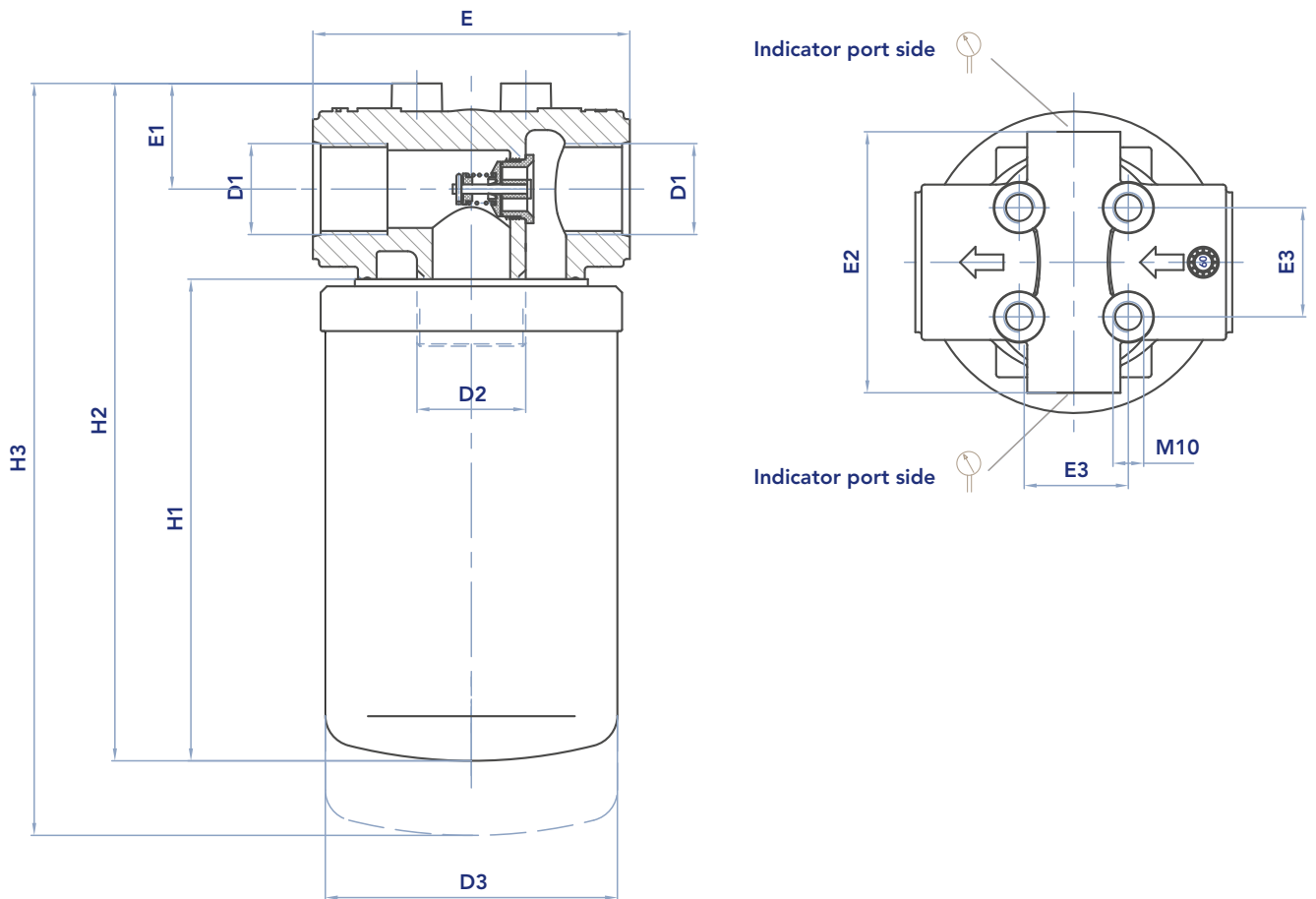
ORDERING AND OPTION CHART

F	P	O	COMPLETE FILTER FAMILY						FILTER ELEMENT FAMILY	E	P	O
			SIZE & LENGTH	11	12	14	21	22	SIZE & LENGTH			
			PORT TYPE									
			B = BSP thread	B	B	B	-	-				
			N = NPT thread	N	N	N	-	-				
			PORT SIZE									
			06 = 3/4"	06	06	06	-	-				
			08 = 1"	08	08	08	-	-				
			BYPASS VALVE									
			W = without	W	W	W	-	-				
			B = 170 kPa (1,7 bar)	B	B	B	-	-				
			D = 350 kPa (3,5 bar)	D	D	D	-	-				
			SEALS						SEALS			
			N = NBR Nitrile	N	N	N	-	-				
			FormulaUFI MEDIA						FormulaUFI MEDIA			
			FA = FormulaUFI.MICRON 5 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FA	FA	FA	FA	FA				
			FB = FormulaUFI.MICRON 7 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FB	FB	FB	FB	FB				
			FC = FormulaUFI.MICRON 12 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FC	FC	FC	FC	FC				
			FS = FormulaUFI.MICRON 16 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FS	FS	FS	FS	FS				
			FD = FormulaUFI.MICRON 21 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FD	FD	FD	FD	FD				
			CLOGGING INDICATOR									
			03 = port, plugged	03	03	03	-	-				
			5B = visual differential 130 kPa (1,3 bar)	5B	5B	5B	-	-				
			6B = electrical differential 130 kPa (1,3 bar)	6B	6B	6B	-	-				
			7B = indicator 6B with LED	7B	7B	7B	-	-				
			T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°	T0	T0	T0	-	-				
			5D = visual differential 250 kPa (2,5 bar)	5D	5D	5D	-	-				
			6D = electrical differential 250 kPa (2,5 bar)	6D	6D	6D	-	-				
			7D = indicator 6D with LED	7D	7D	7D	-	-				
			T6 = elect. diff. 250 kPa (2,5 bar) with thermostat 30°	T6	T6	T6	-	-				
X	X		ACCESSORI / ACCESSORIES									
			XX = no accessory available	XX	XX	XX	-	-				

SPARE PARTS

FILTER HOUSING				FILTER ELEMENT				CLOGGING INDICATOR			
											
B	P	O		E	P	O					

INSTALLATION DRAWING



FILTER HOUSING

	D1	D2	D3	E	E1	E2	E3	H1	H2	H3	Kg
FPO11	3/4"-1"	1"3/8-12 UNF 2A	94	102	36	84	35	155	219	243	1,6
FPO12	3/4"-1"	1"3/8-12 UNF 2A	94	102	36	84	35	182	246	270	1,7
FPO13	3/4"-1"	1"3/8-12 UNF 2A	94	102	36	84	35	228	292	316	1,9
FPO14	3/4"-1"	1"3/8-12 UNF 2A	94	102	36	84	35	240	304	328	2,0

FPO

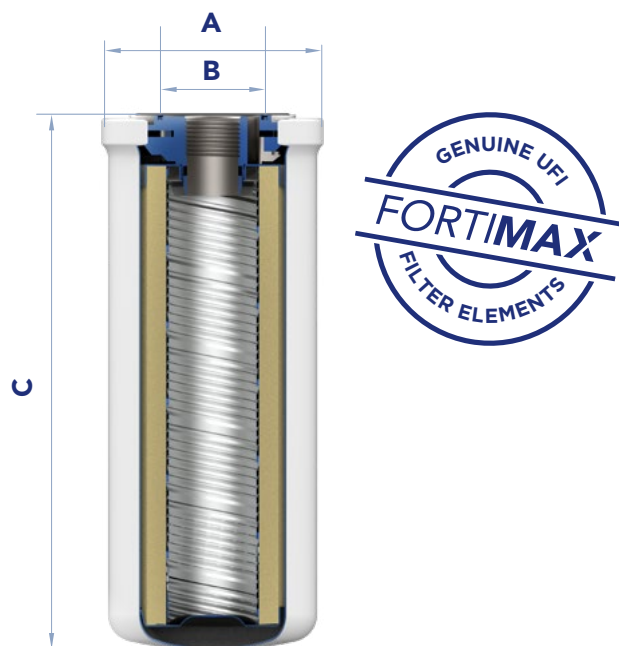
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FILTER ELEMENT

	A	B	C	Kg	AREA (cm ²) Media F+
EPO11	97	1 3/8"-12 UNF 2B	155	0,9	1.860
EPO12	97	1 3/8"-12 UNF 2B	182	1,0	2.285
EPO13	97	1 3/8"-12 UNF 2B	228	1,2	3.110
EPO14	97	1 3/8"-12 UNF 2B	240	1,3	3.320
EPO21	121	1 3/4"-12 UN 2B	294	2,3	5.060
EPO22	121	1 3/4"-12 UN 2B	361	2,7	6.300

The FORTIMAX series includes also several additional dimensions and options. Please check our website for the dedicated brochure or contact our Sales Team or Customer Service for further information and support.



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.



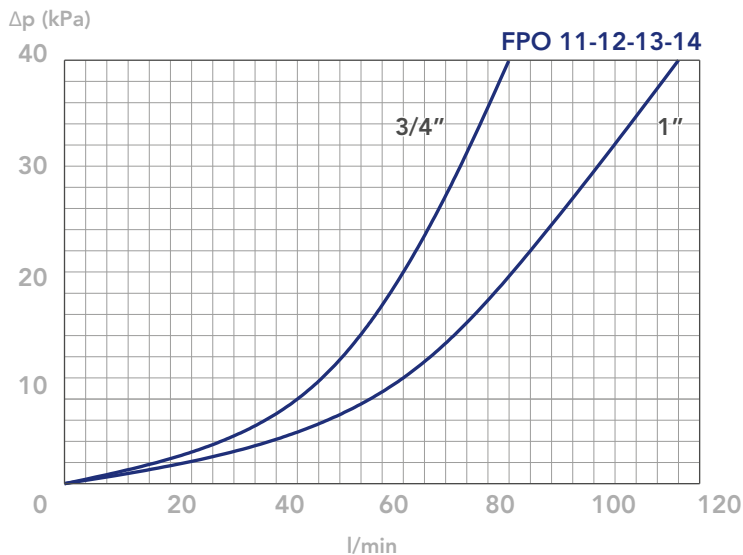


PRESSURE DROP CURVES (Δp)

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

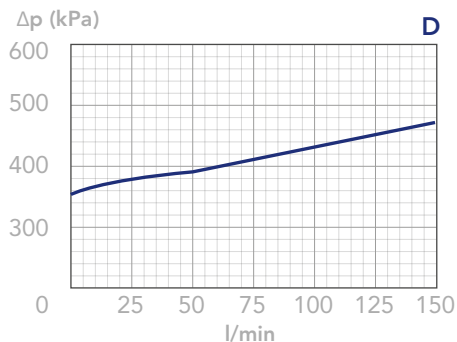
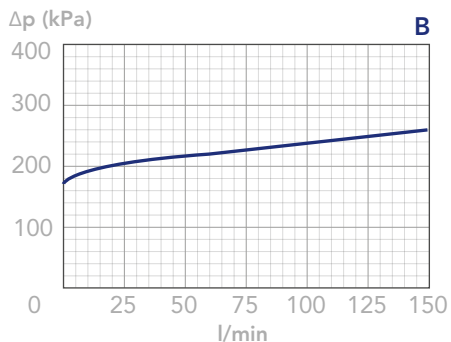
lower than 120 kPa (1,2 bar). In any case this value should never exceed 1/3 of the bypass setting.

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



BYPASS VALVE PRESSURE DROP

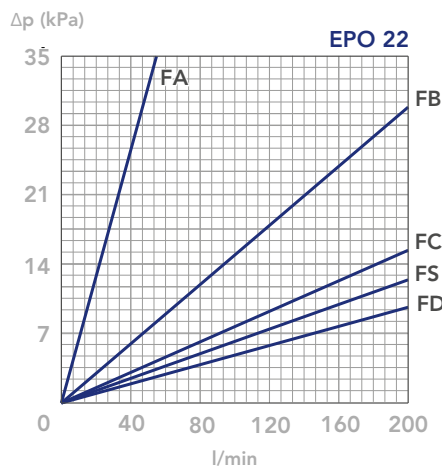
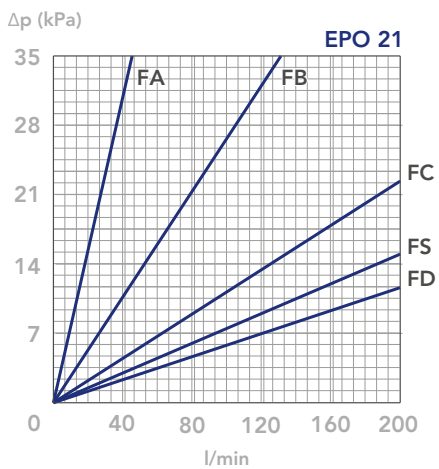
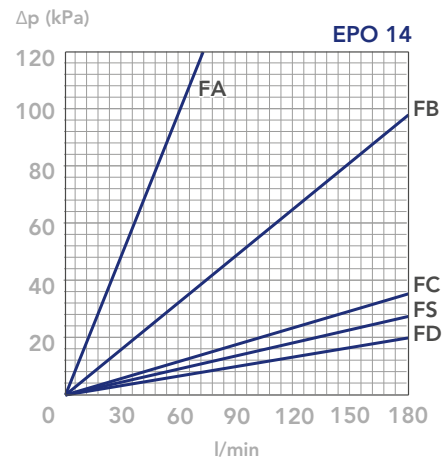
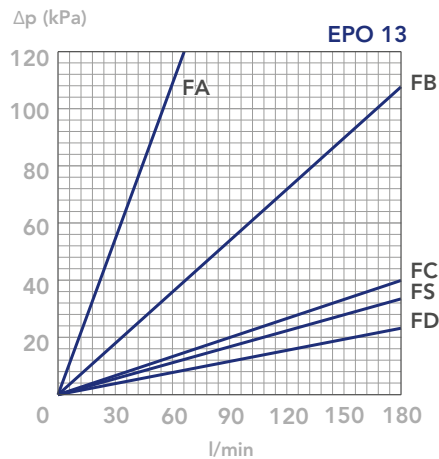
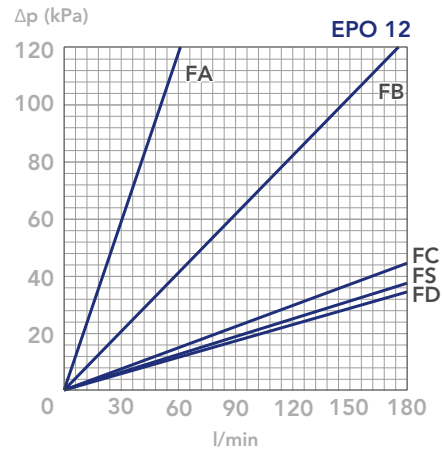
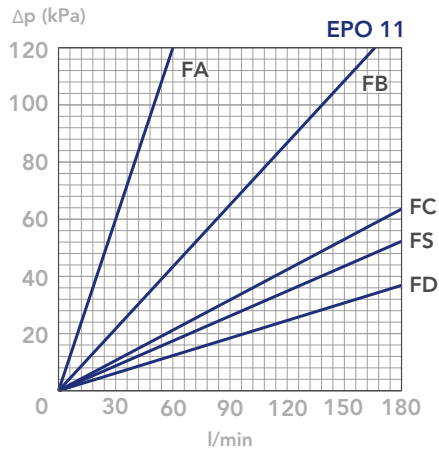
When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.



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



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.