FPM-SPM
PRESSURE FILTERS

MATERIALS

Housing: Anodized aluminium alloy
Bypass valve: Steel
Seals: NBR Nitrile (FKM - on request fluoroelastomer)
Indicator housing: Brass

PRESSURE

Max working: 21 MPa (210 bar)
Collapse, differential for the filter element (ISO 2941):
2,1 MPa (21 bar)

BYPASS VALVE

Setting: 600 kPa (6 bar) ± 10%

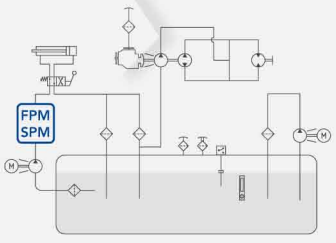
WORKING TEMPERATURE

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 Customer Service.

HYDRAULIC DIAGRAM



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

FPM
PRESSURE FILTERS

ORDERING AND OPTION CHART

F	P	M	COMPLETE FILTER FAMILY		
			SIZE & LENGTH	21	22
			PORT TYPE		
			B = BSP thread	B	B
			N = NPT thread	N	N
			S = SAE thread	S	S
			PORT SIZE		
			04 = 1/2" (N04 not available)	04	04
			06 = 3/4"	06	06
			08 = 1"	08	08
			BYPASS VALVE		
			W = without	W	W
			C = 600 kPa (6 bar)	C	C
			SEALS		
			N = NBR Nitrile	N	N
			F = FKM Fluoroelastomer	F	F
			FILTER MEDIA		
			FA = fibreglass 5 µm(c) β>1.000	FA	FA
			FB = fibreglass 7 µm(c) β>1.000	FB	FB
			FC = fibreglass 12 µm(c) β>1.000	FC	FC
			FS = fibreglass 16 µm(c) β>1.000	FS	FS
			FD = fibreglass 21 µm(c) β>1.000	FD	FD
			FE = fibreglass 30 µm(c) β>1.000	FE	FE
			CLOGGING INDICATOR**		
			03 = port, plugged	03	03
			5E = visual differential 500 kPa (5 bar)	5E	5E
			6E = electrical differential 500 kPa (5 bar)	6E	6E
			7E = indicator 6E with LED	7E	7E
			T2 = elect. diff. 500 kPa (5 bar) with thermostat 30°C	T2	T2
X	X		ACCESSORIES		
			XX = no accessory available	XX	XX

FILTER ELEMENT FAMILY	E	P	B
SIZE & LENGTH			
SEALS			
FILTER MEDIA			

SPARE PARTS ELEMENTS

FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR
		
B P M C X X	E P B	

SPM
PRESSURE FILTERS

ORDERING AND OPTION CHART

S	P	M	COMPLETE FILTER FAMILY			FILTER ELEMENT FAMILY	C	C	H
			SIZE & LENGTH	301	302	SIZE & LENGTH			
			FILTER MEDIA			FILTER MEDIA			
			FT = fibreglass 5 µm(c) β>1.000 Δp 2MPa (20 bar)	FT	FT				
			FC = fibreglass 7 µm(c) β>1.000 Δp 2MPa (20 bar)	FC	FC				
			FD = fibreglass 12 µm(c) β>1.000 Δp 2MPa (20 bar)	FD	FD				
			FS = fibreglass 16 µm(c) β>1.000 Δp 2MPa (20 bar)	FS	FS				
			FV = fibreglass 21 µm(c) β>1.000 Δp 2MPa (20 bar)	FV	FV				
			SEALS			SEALS			
			1 = NBR Nitrile	1	1				
			2 = FKM Fluoroelastomer	2	2				
			BYPASS VALVE						
			S = without	S	S				
			C = 600 kPa (6 bar)	C	C				
			PORT TYPE						
			B = BSP thread	B	B				
			N = NPT thread	N	N				
			S = SAE thread	S	S				
			PORT SIZE						
			3 = 1/2" (N3 not available)	3	3				
			4 = 3/4"	4	4				
			5 = 1"	5	5				
			CLOGGING INDICATOR**						
			03 = port, plugged	03	03				
			5E = visual differential 500 kPa (5 bar)	5E	5E				
			6E = electrical differential 500 kPa (5 bar)	6E	6E				
			7E = indicator 6E with LED	7E	7E				
			T2 = elect. diff. 500 kPa (5 bar) with thermostat 30°C	T2	T2				
X	X		ACCESSORIES						
			XX = no accessory available	XX	XX				

SPARE SEAL KIT

	NBR	FKM
FPM21 SPM301	521.0011.2	521.0010.2
FPM22 SPM302	521.0011.2	521.0010.2

NOTE

** When the filter is ordered with FKM seals, the first digit of the indicator code is a letter
(please see Clogging Indicator Chapter for further details)

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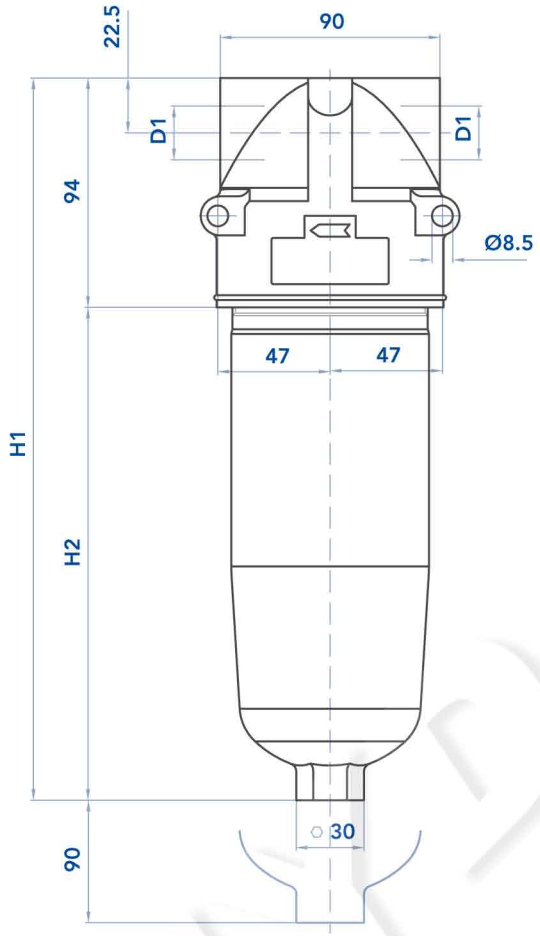
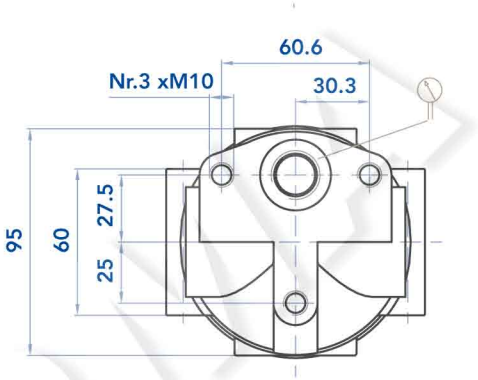
PRESSURE FILTERS

INSTALLATION DRAWING



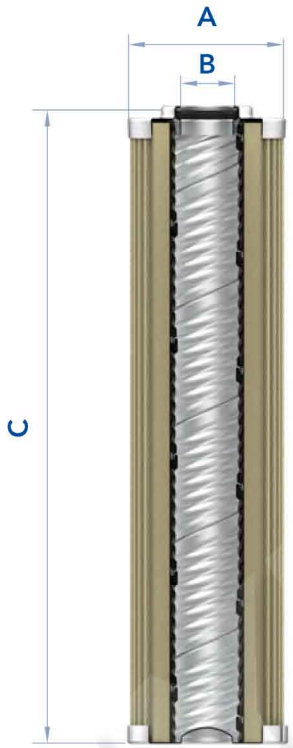


FILTER HOUSING

	D1	H1	H2	R	Kg
FPM21 SPM301	1/2" - 3/4" - 1"	205	111	100	1,5
FPM22 SPM302	1/2" - 3/4" - 1"	298	197	100	2,0

MAINTENANCE

The best time to change your filter element is just before it reaches its maximum dirt-holding capacity. For this reason, we recommend to monitor the pressure of the hydraulic oil flowing through the filter with a clogging indicator. When it is time to change the filter element, switch off the system before opening the filter housing and make sure there is no pressure in the filter. Unscrew the bowl and remove the dirty filter element. Replace it with an original UFI element, verifying the part number on the filter label or on the catalogue. Clean the bowl; check the gaskets conditions and replace if necessary. Insert the clean element into his seat, handling with care and cleanliness. Screw the housing until it stops, with a tightening torque of 60 Nm +5/0.
We recommend the stocking of a spare UFI filter element for timely replacement when required.



FILTER ELEMENT

	A	B	C	Kg	AREA (cm^2) Media F+
EPB21 CCH301	23,5	52	115	0,25	975
EPB22 CCH302	23,5	52	210	0,25	1.930

The used filter elements cannot be cleaned and are classified as "Dangerous waste material". They must be disposed according to local laws by authorized Companies.
Verify that the Company you choose has the expertise and authorization to dispose this type of waste material.

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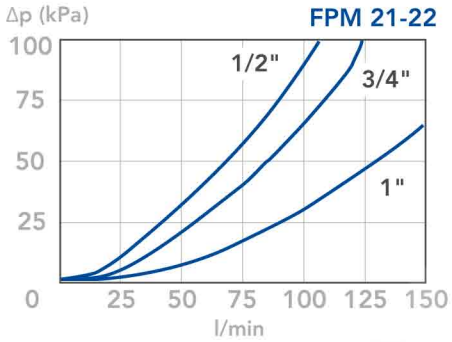
PRESSURE FILTERS

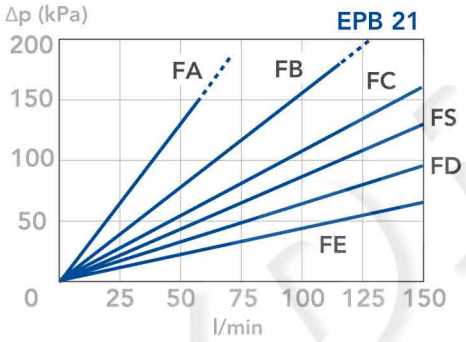
PRESSURE DROP CURVES (ΔP)

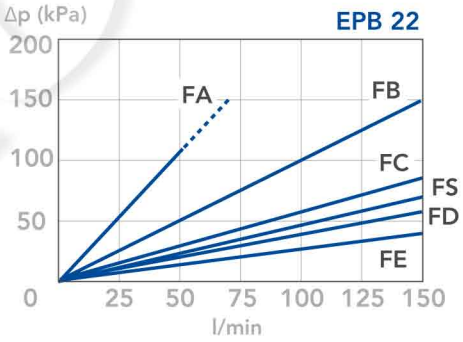
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 120 kPa (1,2 bar) and should never exceed 1/3 of the bypass valve setting.

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

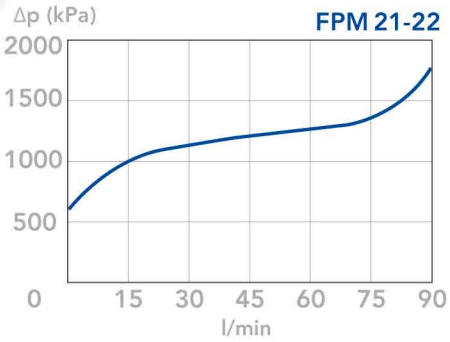


CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ AND C+MEDIA
(depending both on the internal diameter of the element and on the filter media)





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 HYDRAULIC DIVISION Laboratory, according to the specification ISO 3968. In case of discrepancy, please check the contamination level, viscosity and features of the fluid in use.

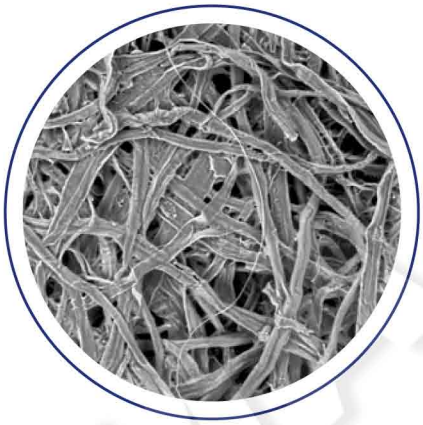
FORMULA UFI.CELL

DESCRIPTION

FormulaUFI.Cell is based on paper fibers made from pure cellulose impregnated with resin to maximize the filter life and reduce pressure drop.

Cellulose provides effective filtration for a variety of hydraulic applications, like concrete pumps and mining vehicles. It is also used for air breathers, return line filters and spin-on cartridges, in which a good quality-price ratio should be recommended.

Cellulose presents a porous surface, so that filtering media are classified on average pore size.



APPLICATIONS

AGRICULTURAL
CONSTRUCTION
HEAVY DUTY
INDUSTRIAL
MATERIAL HANDLING
POWER GENERATION

PLUS

+ **Improved performances** in mechanical stability and filter life
+ **High stiffness to retain stability** also during low temperature conditions
+ **Effective filtration** for a wide variety of petroleum-based fluids

Main FormulaUFI.Cell available options are highlighted in the following table. Additional customized options are available on request under technical evaluation of the specific application requirements.

FormulaUFI	FILTRATION RATING $\beta_x \geq 2$ ISO 16889	UFI CODIFICATION	SOFIMA CODIFICATION
FormulaUFI.CELL	10 µm	CC	CD
FormulaUFI.CELL	25 µm	CD	CV
FormulaUFI.CELL - Reinforced version	10 µm	RC	DR
FormulaUFI.CELL - Reinforced version	25 µm	RD	VR