



# FMA

## SUCTION FILTERS

### DESCRIPTION

Multipurpose filter

### MATERIALS

Housing: Aluminum alloy  
Bowl: Cold formed steel  
Seals: NBR Nitrile (FKM Fluoroelastomer on request)  
Indicator housing: Brass

### PRESSURE

Max working: 0,7 MPa (7 bar)  
Collapse, differential for the filter element (ISO 2941): 300 kPa (3 bar)

### FLOW RATE

Qmax 600 l/min

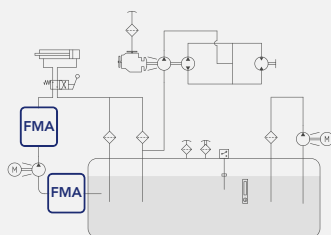
### WORKING TEMPERATURE

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	M	A	COMPLETE FILTER FAMILY						FILTER ELEMENT FAMILY	E	M	A
			<b>SIZE &amp; LENGTH</b>	11	21	22	31	32	<b>SIZE &amp; LENGTH</b>			
		<b>B</b>	<b>PORT TYPE</b>									
			B = BSP thread	B	B	B	B	B				
			<b>PORT SIZE</b>									
			04 = 1/2"	04	-	-	-	-				
			06 = 3/4"	-	06	-	-	-				
			08 = 1"	-	-	08	-	-				
			10 = 1" 1/4	-	-	-	10	-				
			12 = 1" 1/2	-	-	-	-	12				
		<b>X</b>	<b>BYPASS VALVE</b>									
			X = not available	B	B	B	B	B				
			<b>SEALS</b>						<b>SEALS</b>			
			N = NBR Nitrile	N	N	N	N	N				
			F = FKM Fluoroelastomer	F	F	F	F	F				
			G = Treatment for water-glycol	G	G	G	G	G				
			<b>FormulaUFI MEDIA</b>						<b>FormulaUFI MEDIA</b>			
			CC = FormulaUFI.CELL 10 µm β>2	CC	CC	CC	CC	CC				
			CD = FormulaUFI.CELL 25 µm β>2	CD	CD	CD	CD	CD				
			MD = FormulaUFI.WEB 30 µm	MD	ME	ME	ME	ME				
			ME = FormulaUFI.WEB 60 µm	ME	ME	ME	ME	ME				
			MF = FormulaUFI.WEB 90 µm	MF	MF	MF	MF	MF				
			MG = FormulaUFI.WEB 250 µm	MG	MG	MG	MG	MG				
			WR = FormulaUFI.H2O*	WR	WR	WR	WR	WR				
			<b>CLOGGING INDICATOR</b>									
			0E = nr. 2x1/8" ports, plugged	0E	0E	0E	0E	0E				
			11 = vacuum gauge**	11	11	11	11	11				
			91 = vacuum switch**	91	91	91	91	91				
			33 = pressure gauge, rear connection***	33	33	33	33	33				
			P1 = SPDT, pressure switch***	P1	P1	P1	P1	P1				
			<b>ACCESSORI / ACCESSORIES</b>									
			W = without accessory	W	W	W	W	W				
			B = mounting brackets	B	B	B	B	B				
		<b>X</b>	<b>ACCESSORI / ACCESSORIES</b>									
			X = no accessory available	X	X	X	X	X				

\* Water removal media - see "Hydro Dry" or FormulaUFI chapters  
 \*\* For Suction line  
 \*\*\* For Return and Low Pressure line

### SPARE PARTS

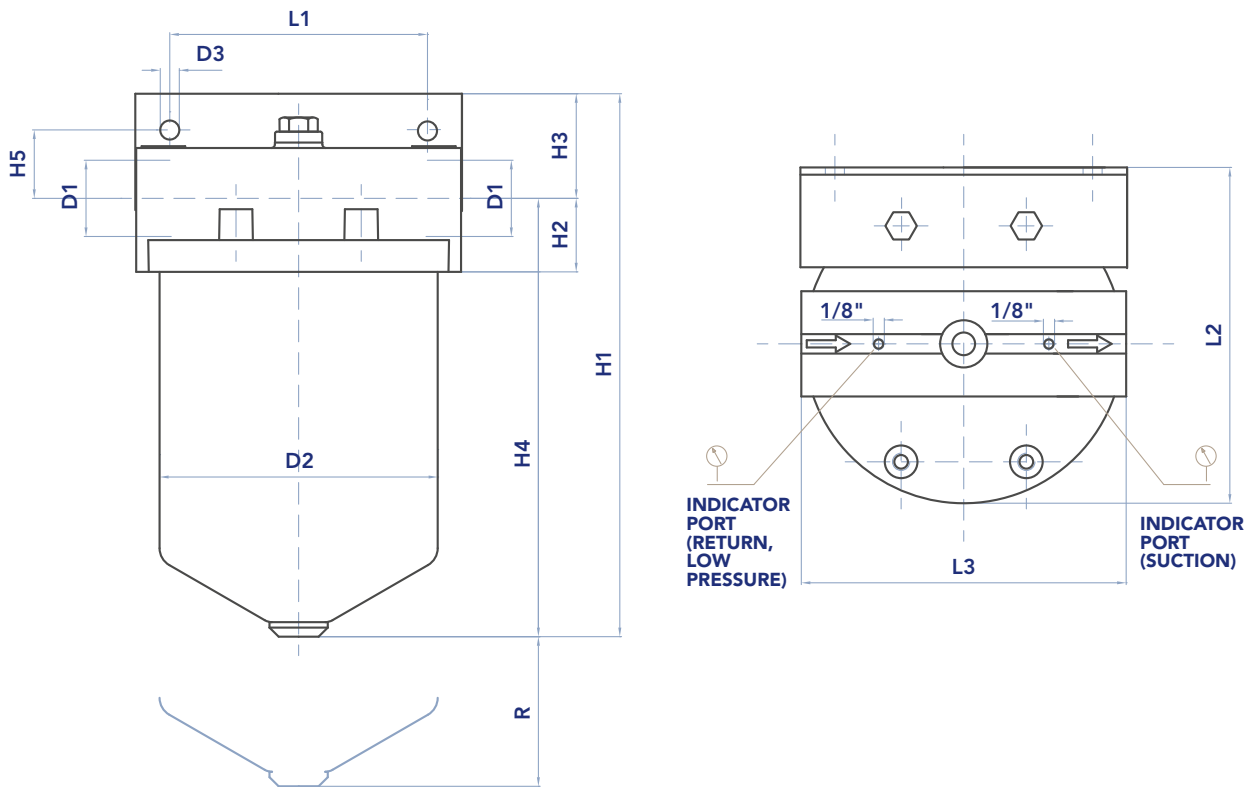
FILTER HOUSING										FILTER ELEMENT					CLOGGING INDICATOR		
B	M	A								E	M	A					



## SPARE SEAL KIT

	NBR	FKM
FMA11	521.0111.2	521.0090.2
FMA21-22	521.0023.2	521.0091.2
FMA31-32	521.0089.2	521.0092.2

## INSTALLATION DRAWING



## FILTER HOUSING

	D1	H1	H2	H3	L1	D2	H4	L2	D3	L3	H5	R	kg
FMA11	1/2"	170	22	38	50	81	132	95	6,5	105	26	20	1,0
FMA21	3/4"	245	37	40	100	114	205	135	8,5	140	24	25	2,0
FMA22	1"	285	37	40	100	114	245	135	8,5	140	24	25	2,5
FMA31	1"1/4	290	40	50	150	155	240	185	10,5	178	28	25	6,0
FMA32	1"1/2	350	40	50	150	155	300	185	10,5	178	28	25	6,5

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### FILTER ELEMENT

	AREA (cm <sup>2</sup> )					
	A	B	C	Media M+	Media C+	Media WR
<b>EMA11</b>	70	29,5	88	480	1.180	669
<b>EMA21</b>	70	29,5	134	750	1.800	1.036
<b>EMA22</b>	95	41	175	1.650	2.400	2.112
<b>EMA31</b>	140	65,5	145	1.740	4.440	3.181
<b>EMA32</b>	140	65,5	205	2.490	6.390	4.574



### 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 screw (1) to remove the bowl (2). The filter element is assembled on the bottom.
- 4) Empty the bowl (2)
- 5) Remove the dirty filter element (3).  
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 authorised Companies.
- 6) Check the filter element part number on the filter label or in the ordering and option chart.  
Use only original spare parts.
- 7) Check the correct position of the gasket (4) and the spring (5) on the central pin (6) in the bowl. Insert the clean element onto the pin, in contact with the gasket  
Lubricate the element o-ring gasket (3) with oil.
- 8) Keep the housing (2) and its gasket (7) against the head (8). Tighten the screw (1) with the washer (9) until the seal between bowl and head is guaranteed.

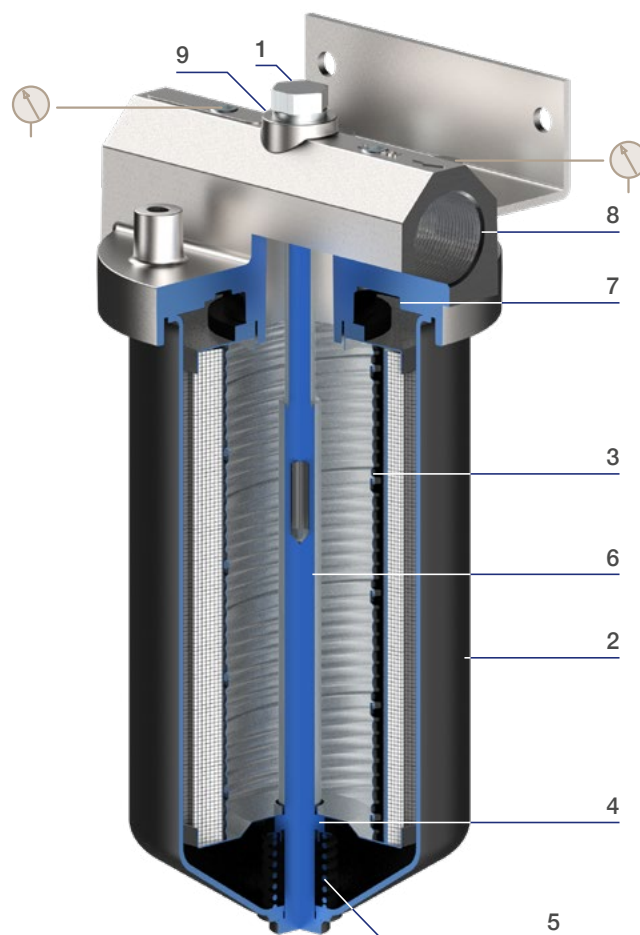
#### Accessories:

Clogging indicator (6).

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.

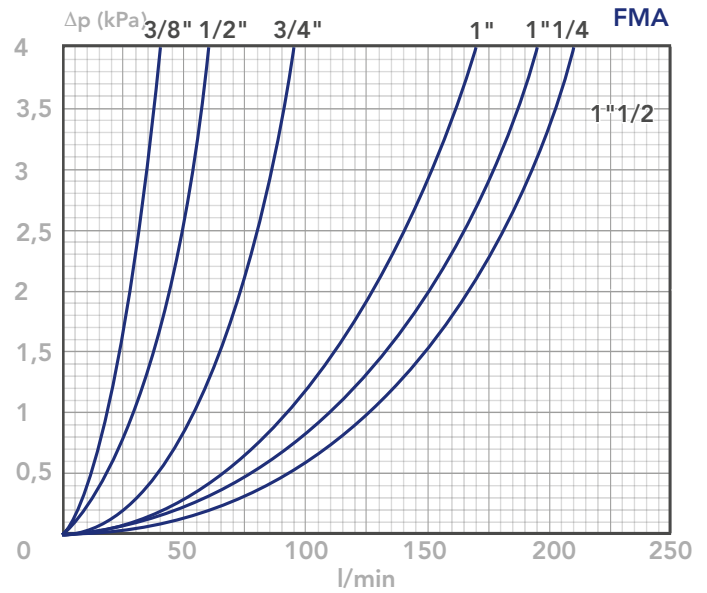




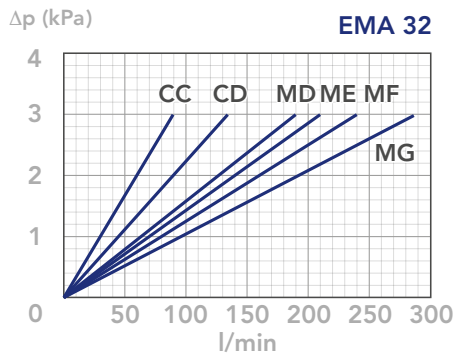
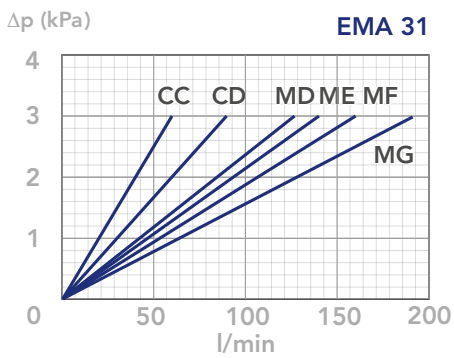
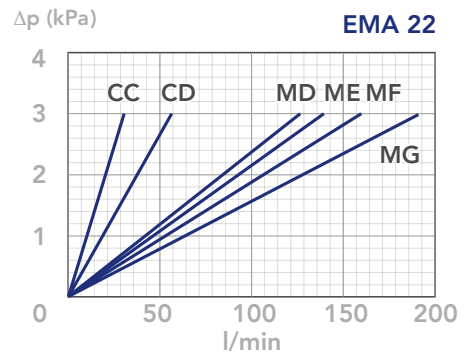
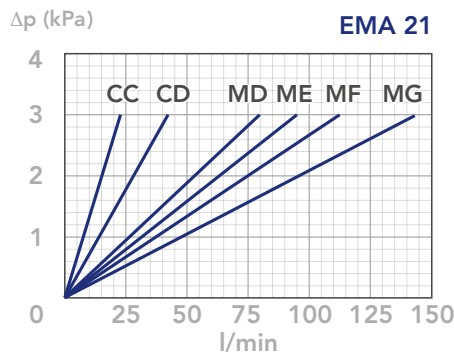
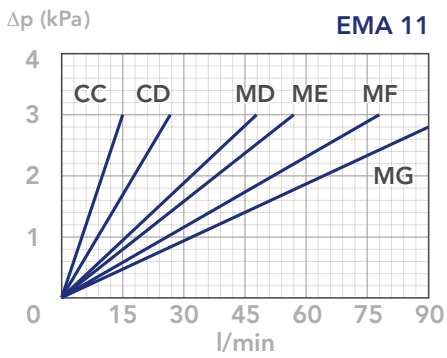
## PRESSURE DROP CURVES ( $\Delta P$ )

The Pressure Drop ( $\Delta p$ ) must be lower than 3 kPa (0,03 bar).

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



CLEAN FILTER ELEMENT PRESSURE DROP  
(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/dm<sup>3</sup>; 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.