

Part number:

HYDROMA
HYDRAULICKÉ SYSTÉMY

HIDROMA
SYSTEMS
UKŁADY HYDRAULICZNE

HYDROMA
ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

FPL-SPP

PRESSURE FILTERS

MATERIALS

Head: Cast iron
Bowl: Steel
Bypass valve: Steel
Seals: NBR Nitrile
(FKM - on request fluoroelastomer)
Indicator housing: Brass

PRESSURE

Max working: 31,5 MPa (315 bar)
Collapse, differential for the filter element (ISO 2941)
standard series: 2 MPa (20 bar)
H+ series: 21 MPa (210 bar)

BYPASS VALVE

Setting: 600 kPa (6 bar) $\pm$ 10%

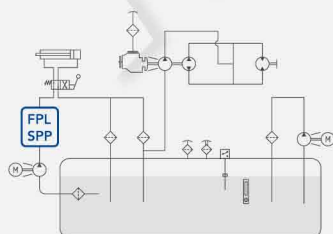
WORKING TEMPERATURE

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.

FPL

PRESSURE FILTERS

ORDERING AND OPTION CHART

F	P	L	COMPLETE FILTER FAMILY												FILTER ELEMENT FAMILY		E	P	B		
			SIZE & LENGTH	11	12	13	21	22	31	32	33	34	35	SIZE & LENGTH							
			PORT TYPE																		
			C = Flanges 90° (manifold)	C	C	C	C	C	C	C	C	C	C								
			PORT SIZE																		
			15 = size 15	15	15	15	-	-	-	-	-	-	-								
			20 = size 20	-	-	-	20	20	-	-	-	-	-								
			32 = size 32	-	-	-	-	-	32	32	32	32	32								
			BYPASS VALVE																		
			W = without	W	W	W	W	W	W	W	W	W	W								
			C = 600 kPa (6 bar)	C	C	C	C	C	C	C	C	C	C								
			SEALS															SEALS			
			N = NBR Nitrile	N	N	N	N	N	N	N	N	N	N								
			F = FKM Fluoroelastomer	F	F	F	F	F	F	F	F	F	F								
			FILTER MEDIA															FILTER MEDIA			
			FA = fibreglass 5 µm(c) β>1.000 Δp 2MPa (20 bar)	FA	FA	FA	FA	FA	FA	FA	FA	FA	FA								
			FB = fibreglass 7 µm(c) β>1.000 Δp 2MPa (20 bar)	FB	FB	FB	FB	FB	FB	FB	FB	FB	FB								
			FC = fibreglass 12 µm(c) β>1.000 Δp 2MPa (20 bar)	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC								
			FS = fibreglass 16 µm(c) β>1.000 Δp 2MPa (20 bar)	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS								
			FD = fibreglass 21 µm(c) β>1.000 Δp 2MPa (20 bar)	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD								
			FE = fibreglass 30 µm(c) β>1.000 Δp 2MPa (20 bar)	FE	FE	FE	FE	FE	FE	FE	FE	FE	FE								
			HA = fibreglass 5 µm(c) β>1.000 Δp 21MPa (210 bar)	HA	HA	HA	HA	HA	HA	HA	HA	HA	HA								
			HB = fibreglass 7 µm(c) β>1.000 Δp 21MPa (210 bar)	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB								
			HC = fibreglass 12 µm(c) β>1.000 Δp 21MPa (210 bar)	HC	HC	HC	HC	HC	HC	HC	HC	HC	HC								
			HD = fibreglass 21 µm(c) β>1.000 Δp 21MPa (210 bar)	HD	HD	HD	HD	HD	HD	HD	HD	HD	HD								
			CLOGGING INDICATOR**																		
			03 = port, plugged	03	03	03	03	03	03	03	03	03	03								
			5E = visual differential 500 kPa (5 bar)	5E	5E	5E	5E	5E	5E	5E	5E	5E	5E								
			5F = visual differential 800 kPa (8 bar)	5F	5F	5F	5F	5F	5F	5F	5F	5F	5F								
			6E = electrical differential 500 kPa (5 bar)	6E	6E	6E	6E	6E	6E	6E	6E	6E	6E								
			6F = electrical differential 800 kPa (8 bar)	6F	6F	6F	6F	6F	6F	6F	6F	6F	6F								
			7E = indicator 6E with LED	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E								
			7F = indicator 6F with LED	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F								
			T2 = elect. diff. 500 kPa (5 bar) with thermostat 30°C	T2	T2	T2	T2	T2	T2	T2	T2	T2	T2								
			T3 = elect. diff. 800 kPa (8 bar) with thermostat 30°C	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3								
X	X		ACCESSORIES																		
			XX = no accessory available	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX								

SPP

PRESSURE FILTERS

ORDERING AND OPTION CHART

S	P	P	COMPLETE FILTER FAMILY											FILTER ELEMENT FAMILY	C	C	H
			SIZE & LENGTH	151	152	153	301	302	801	802	803	804	805	SIZE & LENGTH			
			FILTER MEDIA											FILTER MEDIA			
			FT = fibreglass 5 µm(c) β>1.000 Δp 2MPa (20 bar)	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT				
			FC = fibreglass 7 µm(c) β>1.000 Δp 2MPa (20 bar)	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC				
			FD = fibreglass 12 µm(c) β>1.000 Δp 2MPa (20 bar)	FD	FD	FD	FD	FD	FD	FD	FD	FD	FD				
			FS = fibreglass 16 µm(c) β>1.000 Δp 2MPa (20 bar)	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS				
			FV = fibreglass 21 µm(c) β>1.000 Δp 2MPa (20 bar)	FV	FV	FV	FV	FV	FV	FV	FV	FV	FV				
			2T = fibreglass 5 µm(c) β>1.000 Δp 21MPa (210 bar)	2T	2T	2T	2T	2T	2T	2T	2T	2T	2T				
			2C = fibreglass 7 µm(c) β>1.000 Δp 21MPa (210 bar)	2C	2C	2C	2C	2C	2C	2C	2C	2C	2C				
			2D = fibreglass 12 µm(c) β>1.000 Δp 21MPa (210 bar)	2D	2D	2D	2D	2D	2D	2D	2D	2D	2D				
			2V = fibreglass 21 µm(c) β>1.000 Δp 21MPa (210 bar)	2V	2V	2V	2V	2V	2V	2V	2V	2V	2V				
			SEALS											SEALS			
			1 = NBR Nitrile	1	1	1	1	1	1	1	1	1	1				
			2 = FKM Fluoroelastomer	2	2	2	2	2	2	2	2	2	2				
			BYPASS VALVE														
			S = without	S	S	S	S	S	S	S	S	S	S				
			C = 600 kPa (6 bar)	C	C	C	C	C	C	C	C	C	C				
			PORT TYPE														
			P = Manifold type mounting	P	P	P	P	P	P	P	P	P	P				
			PORT SIZE														
			A = size 15	A	A	A	-	-	-	-	-	-	-				
			B = size 20	-	-	-	B	B	-	-	-	-	-				
			C = size 32	-	-	-	-	-	C	C	C	C	C				
			CLOGGING INDICATOR**														
			03 = port, plugged	03	03	03	03	03	03	03	03	03	03				
			5E = visual differential 500 kPa (5 bar)	5E	5E	5E	5E	5E	5E	5E	5E	5E	5E				
			5F = visual differential 800 kPa (8 bar)	5F	5F	5F	5F	5F	5F	5F	5F	5F	5F				
			6E = electrical differential 500 kPa (5 bar)	6E	6E	6E	6E	6E	6E	6E	6E	6E	6E				
			6F = electrical differential 800 kPa (8 bar)	6F	6F	6F	6F	6F	6F	6F	6F	6F	6F				
			7E = indicator 6E with LED	7E	7E	7E	7E	7E	7E	7E	7E	7E	7E				
			7F = indicator 6F with LED	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F				
			T2 = elect. diff. 500 kPa (5 bar) with thermostat 30°C	T2	T2	T2	T2	T2	T2	T2	T2	T2	T2				
			T3 = elect. diff. 800 kPa (8 bar) with thermostat 30°C	T3	T3	T3	T3	T3	T3	T3	T3	T3	T3				
X	X		ACCESSORIES														
			XX = no accessory available	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX				

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)

FPL-SPP

PRESSURE FILTERS

SPARE PARTS ELEMENTS

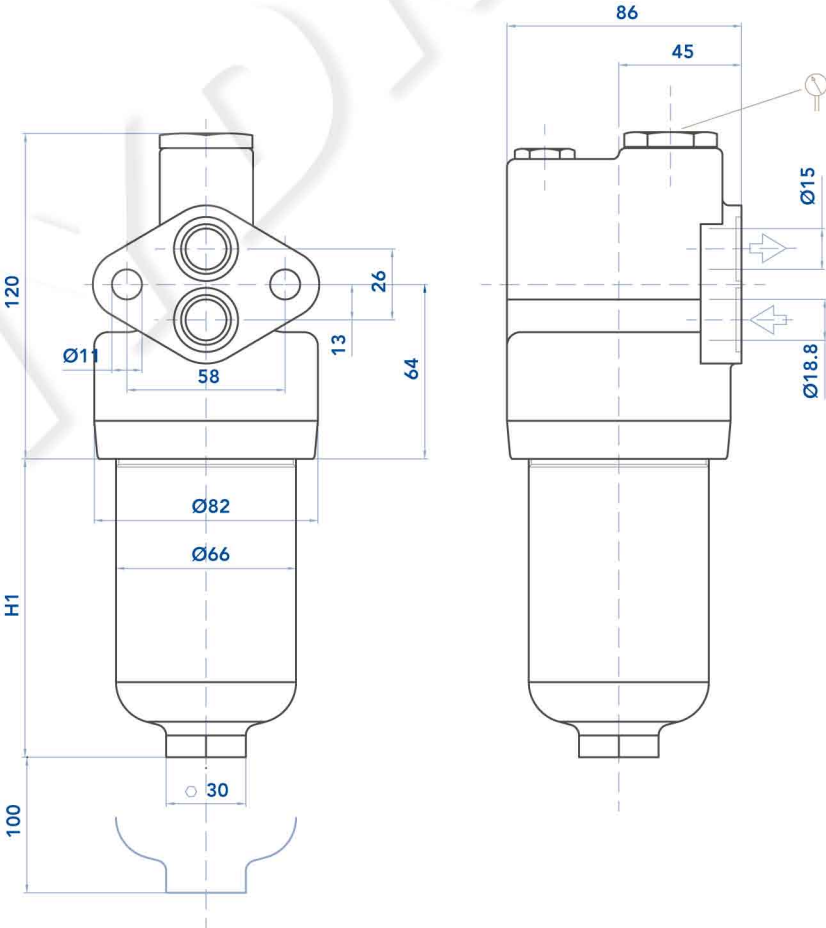
FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR
		
B P L C X X	E P B	

SPARE SEAL KIT

	NBR	FKM		NBR	FKM
FPL11 SPP151	521.0080.2	521.0083.2	FPL31 SPP801	521.0082.2	521.0085.2
FPL12 SPP152	521.0080.2	521.0083.2	FPL32 SPP802	521.0082.2	521.0085.2
FPL13 SPP153	521.0080.2	521.0083.2	FPL33 SPP803	521.0082.2	521.0085.2
FPL21 SPP301	521.0081.2	521.0084.2	FPL34 SPP804	521.0082.2	521.0085.2
FPL22 SPP302	521.0081.2	521.0084.2	FPL35	521.0082.2	521.0085.2

INSTALLATION DRAWING

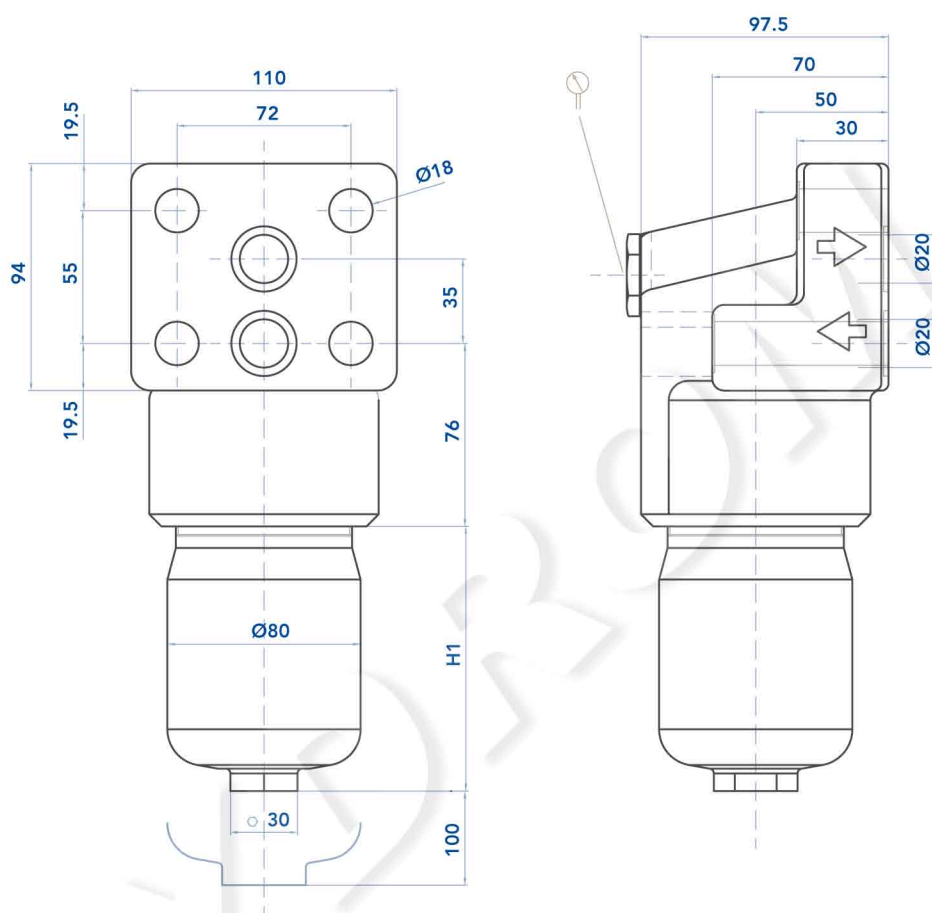
FPL1





INSTALLATION DRAWING

FPL2



FILTER HOUSING

	H1	Kg
FPL11 SPP151	79	4,4
FPL12 SPP152	109	4,6
FPL13 SPP153	209	5,2
FPL21 SPP301	116	6,6
FPL22 SPP302	207	8,2

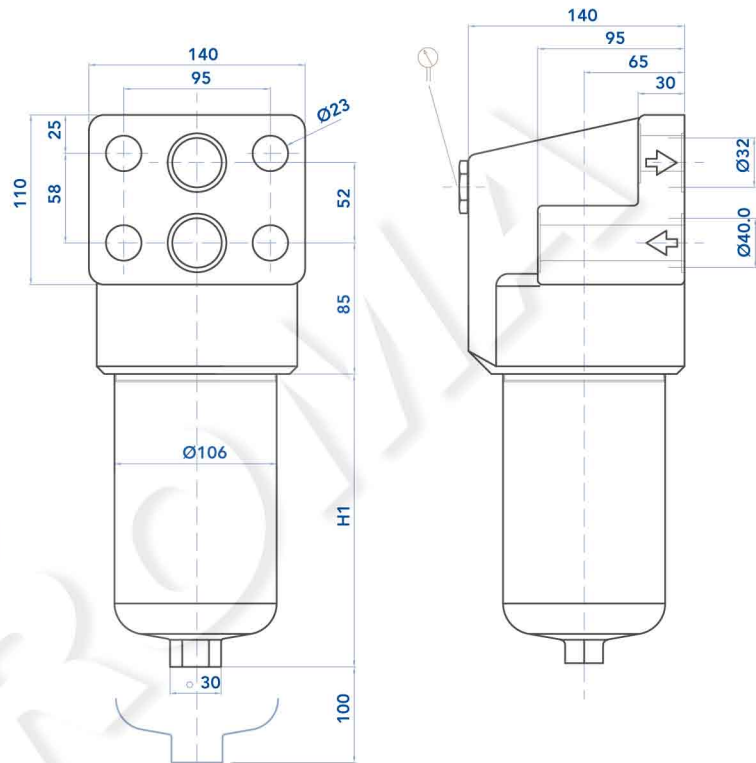
FPL-SPP

PRESSURE FILTERS

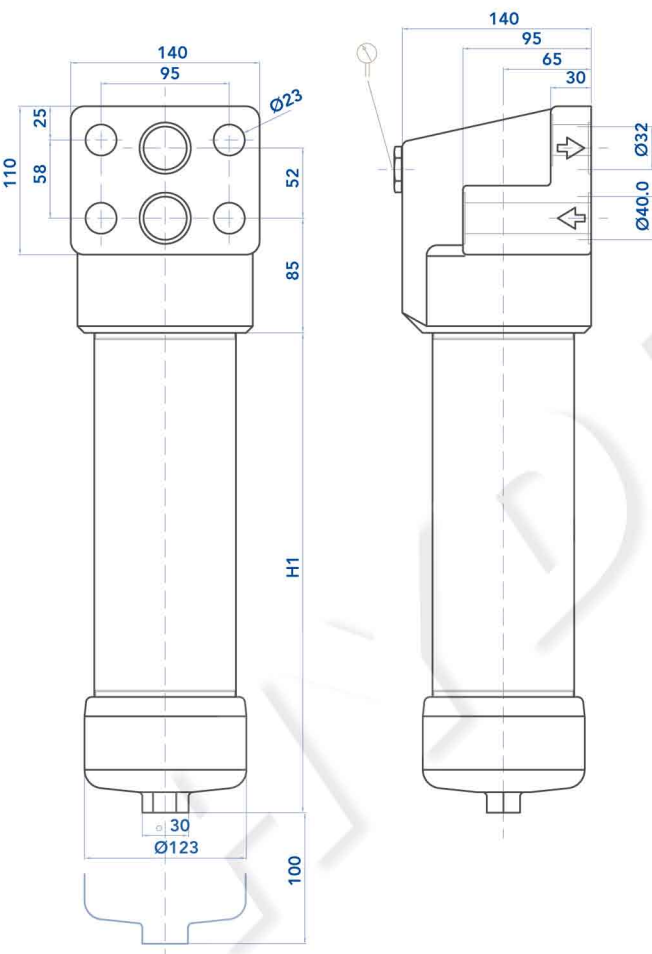


INSTALLATION DRAWING

FPL 31-32-33



FPL 34-35



FILTER HOUSING

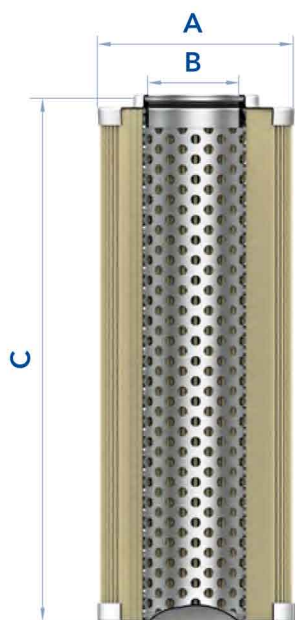
	H1	Kg
FPL31 SPP801	107	11,0
FPL32 SPP802	199	13,9
FPL33 SPP803	319	17,2
FPL34 SPP804	420	22,0
FPL35	520	25,0



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 70 Nm +5/0. We recommend the stocking of a spare UFI filter element for timely replacement when required.



FILTER ELEMENT

	A	B	C	Kg Media F	Kg MediaH	AREA (cm²)	
						Media F+	MediaH+
EPB11 CCH151	45	25	85	0,15	0,25	355	340
EPB12 CCH152	45	25	116	0,20	0,55	500	475
EPB13 CCH153	45	25	211	0,30	0,45	935	915
EPB21 CCH301	52	23,5	115	0,25	0,40	975	975
EPB22 CCH302	52	23,5	210	0,35	0,55	1.830	1.785
EPB31 CCH801	78	42,5	118	0,40	0,70	2.000	1.470
EPB32 CCH802	78	42,5	210	0,80	1,30	3.695	2.695
EPB33 CCH803	78	42,5	330	1,00	1,60	5.025	4.325
EPB34 CCH804	78	42,5	430	1,20	1,80	6.585	5.685
EPB35	78	42,5	530	1,40	2,00	8.145	7.045

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.

FPL-SPP

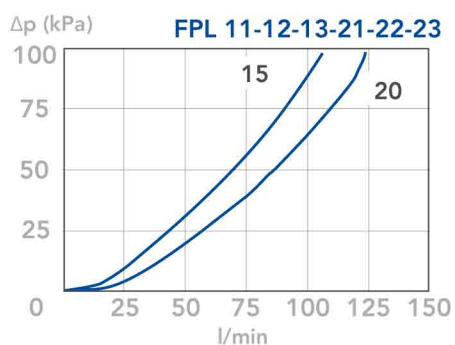
PRESSURE FILTERS

PRESSURE DROP CURVES (ΔP)

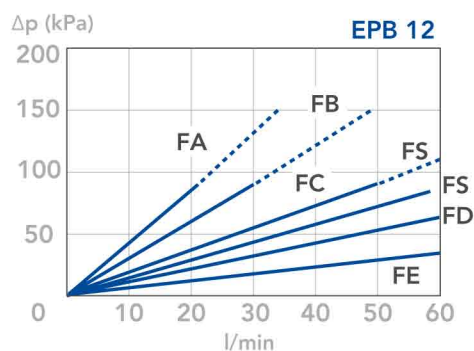
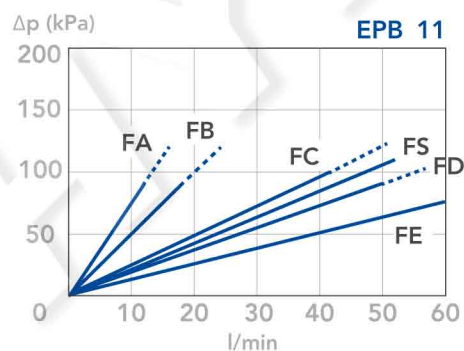
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow

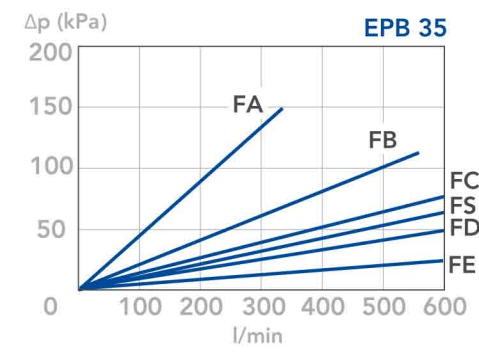
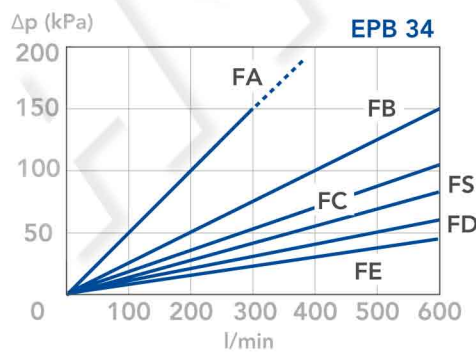
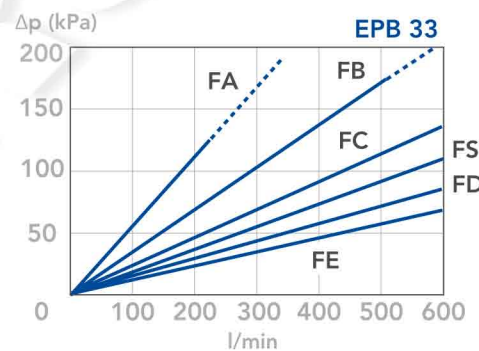
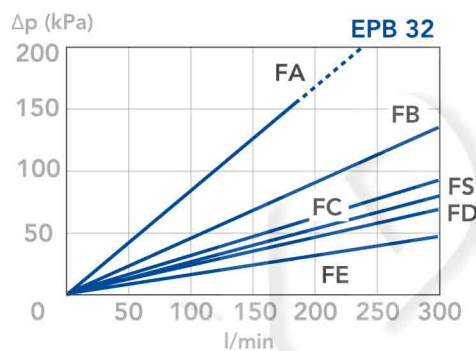
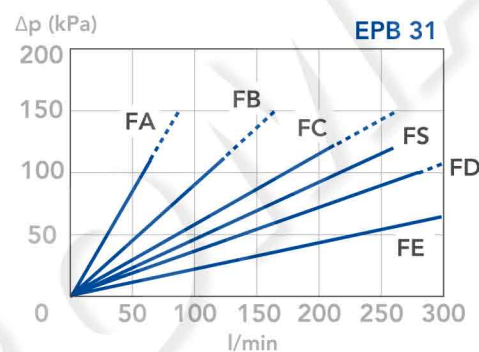
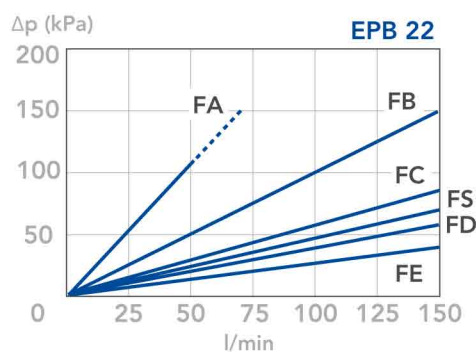
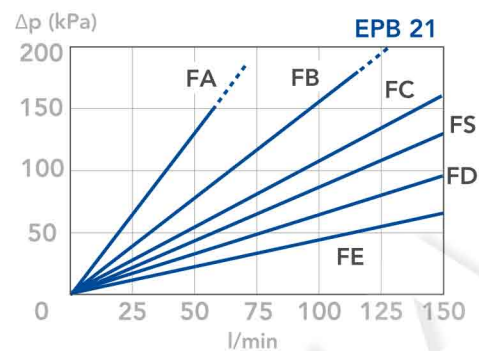
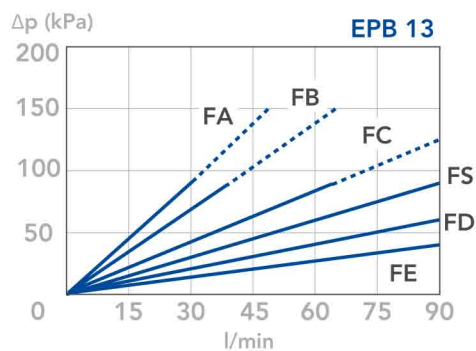
Rate and it must be lower than 120 kPa (1,2 bar) and should never exceed 1/3 of the bypass setting.

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



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





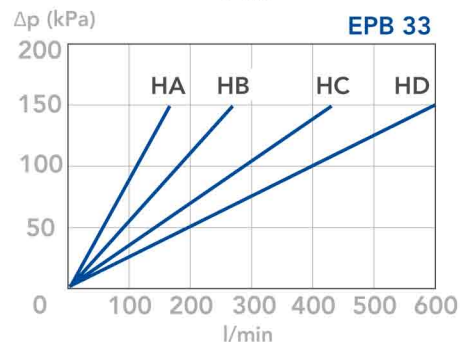
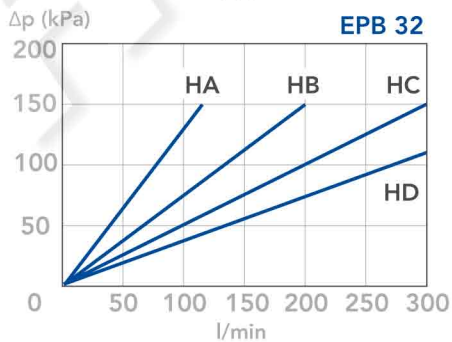
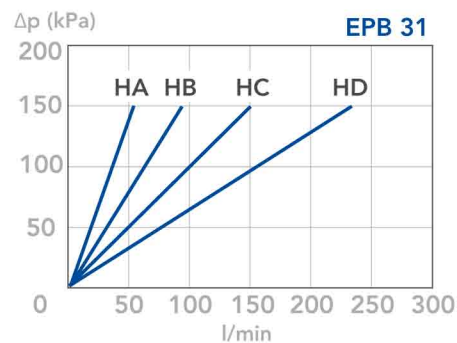
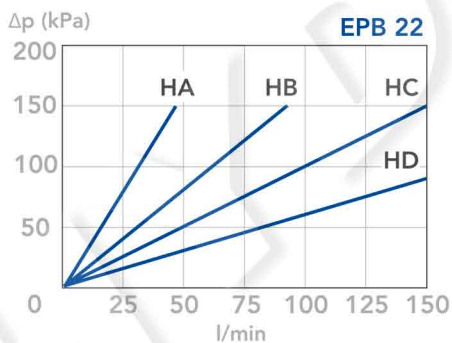
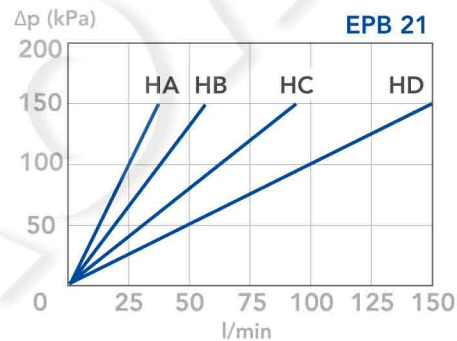
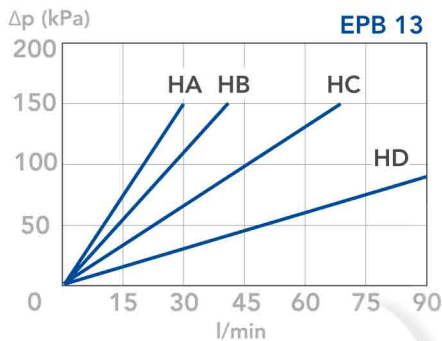
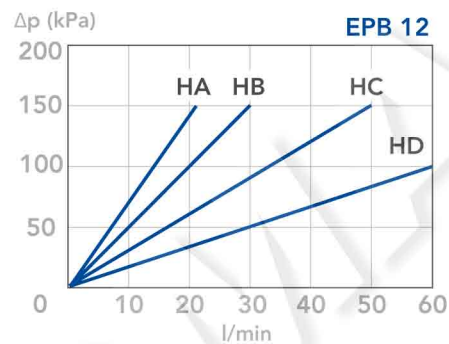
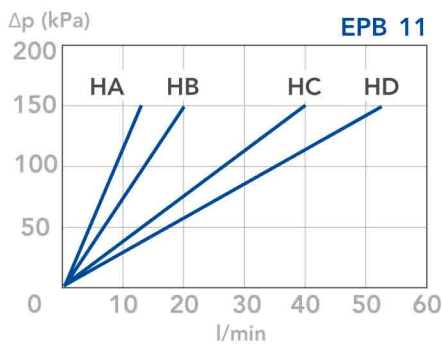
N.B.

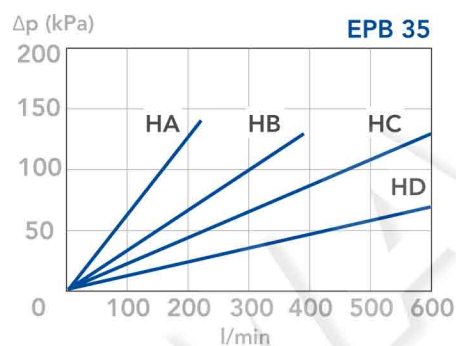
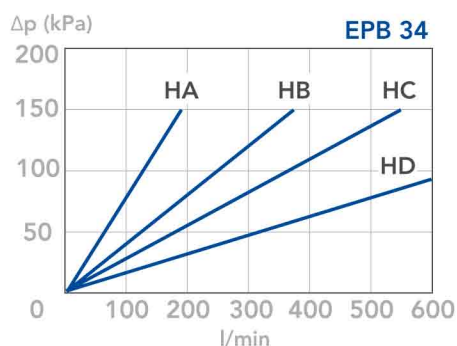
All the curves have been obtained with mineral oil having a kinematic viscosity 30 cSt and specific gravity 0,86 Kg/dm³; for fluids with different features, please consider the factors described in the first part of this catalogue. All the curves

are obtained from test done at the UFI 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.

PRESSURE DROP CURVES (Δp)

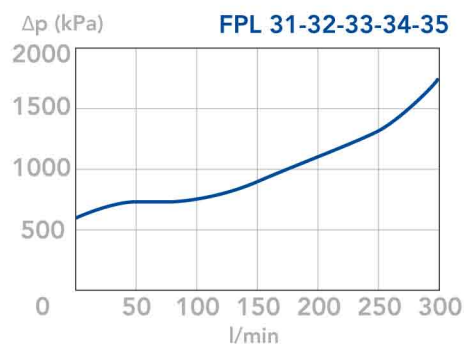
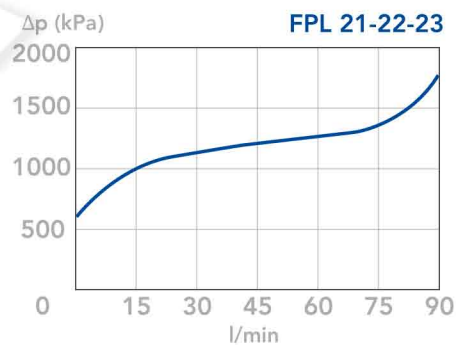
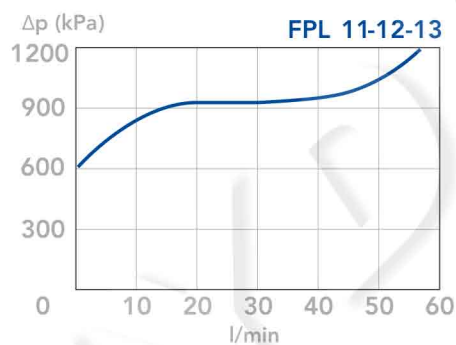
CLEAN FILTER ELEMENT PRESSURE DROP WITH H+ MEDIA
(depending both on the internal diameter of the element and on the filter media) - Recommended with no bypass option





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.