

# Return line filters

**FRC**



## MATERIALS

**Head :**  
Die cast alluminum alloy

**Spin-on-cartridge :**  
Steel

**Seals:**  
Nitrile ( buna n)

**Indicator housing:**  
Brass

**Bypass valve :**  
Polyamide 66

## PRESSURE

**Max working:**  
700 kPa ( 7 bar )

**Test:**  
1 MPa ( 10 bar )

**Bursting:**  
2.1 MPa ( 21 bar )

**Collapse, differential**  
for the filter element : 300 kPa ( 3 ba

## BYPASS VALVE

170 kPa (1.7 bar)+/- 10%

## WORKING TEMPERATURE

From -25° to +110° C

## COMPATIBILITY

**Full with fluids:**  
HH-HL-HM-HR-HV-HG



## VISUAL CLOGGING INDICATOR

A visual clogging indicator allows monitoring of the element condition and provides maximum element life by indicating the exact time for the element replacement.

## QUICK MAINTENANCE

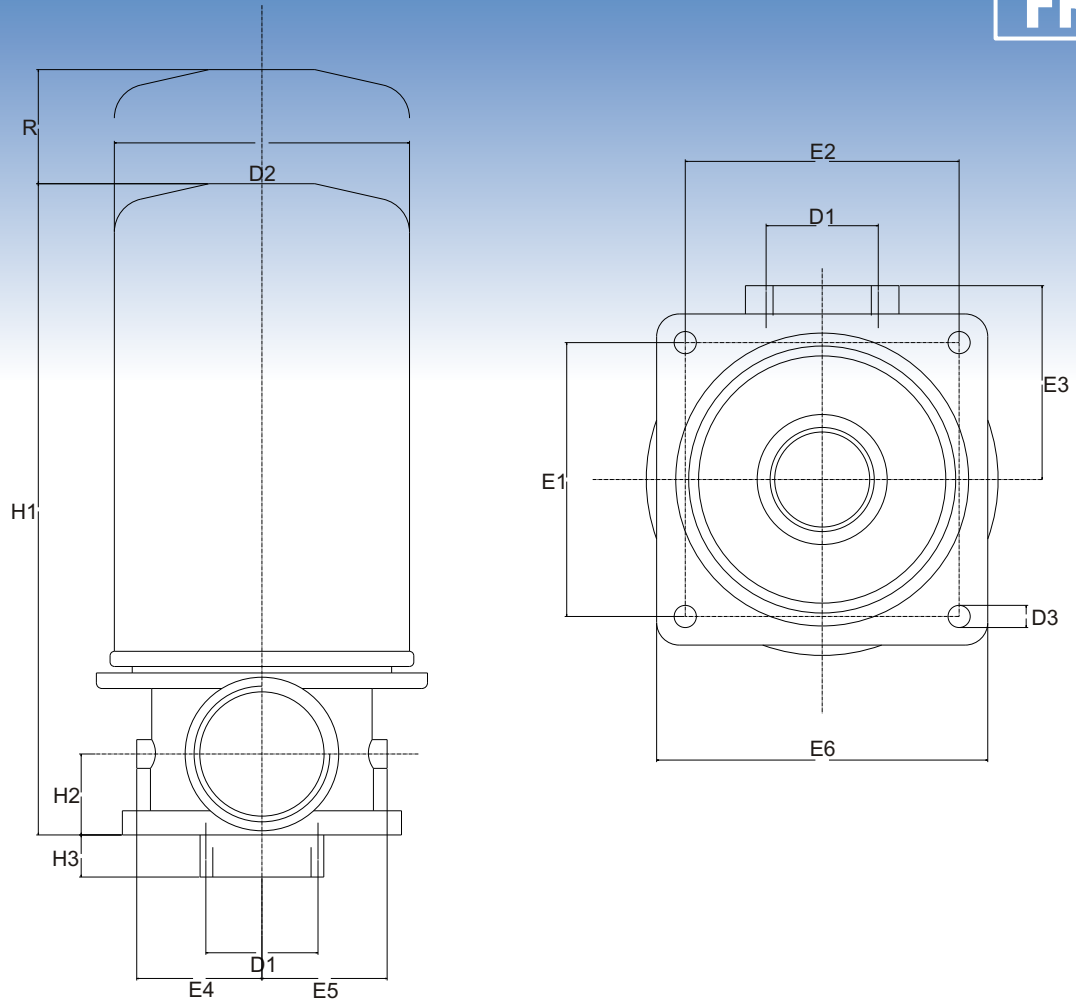
The filter comes with a threaded cap, thus no tool is required while replacing the element.

## EASY REPLACEMENT

The top end cap includes a handle allowing an easy removal of the element and a complete cleaning of the bowl.

## FFP PRODUCTS ( HYDRAULICS DIVISION )

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Tel: +91 22 28925607 Fax: +91 22 28904071  
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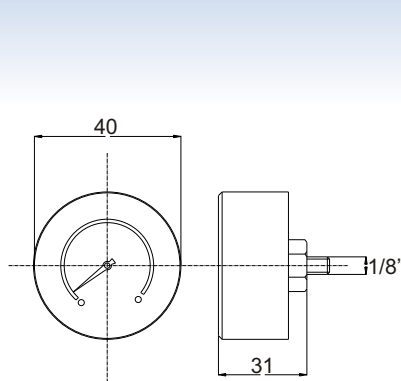


Tank cut out for FRC11 & 12 is 63 mm dia and dia 94 mm for FRC21 & 22

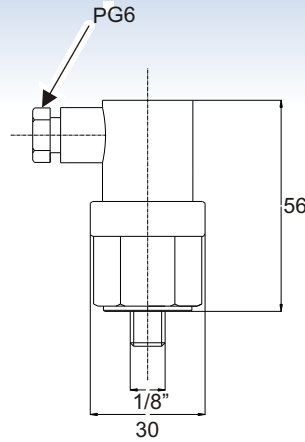
FILTER HOUSING														
Part No.	D1	D2	D3	H1	H2	H3	E1	E2	E3	E4	E5	E6	R	kg
FRC11	3/4"	95	7	196	25	18	70	70	50	38	38	90	15	0,3+1,0
FRC12	3/4"	95	7	241	25	18	70	70	50	38	38	90	15	0,3+1,3
FRC21	1 1/2"	130	9	252	36	18	100	100	72	56	56	124	30	0,8+1,3
FRC22	1 1/2"	130	9	297	36	18	100	100	72	56	56	124	30	0,8+1,4

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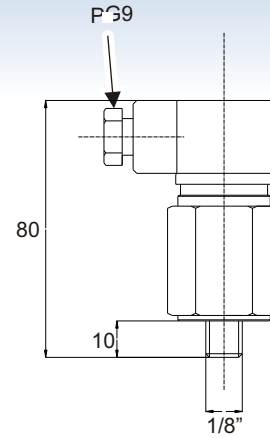
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**Series F30 (rear connection):**  
pressure gauge,  
scale 0 - 600 kPa (0 - 6 bar)

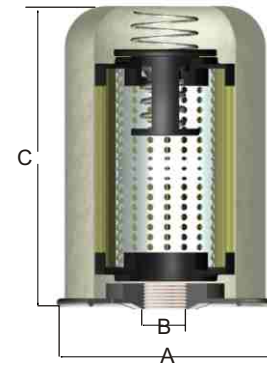


**Series F80 (N.O. contacts)  
& series F81 (N.C. contacts):**  
pressure switch,  
max voltage 220 Vca 50-60 Hz  
max current 0,5A resistive, 0,25A inductive  
switching power 100 VA,  
setting 150 kPa (1,5 bar) for F80 & F81  
protection IP65.



**Series FP1 :**  
SPDT, pressure switch  
max voltage 250V - 50Hz  
max current 6A resistive, 1A inductive  
protection IP65  
setting 150 kPa (1,5 bar) for FP1

Part No.	A	B	FILTER ELEMENT		Area (cm <sup>2</sup> )	
			C	Kg	Media F+	Media C+
ERC11	96,5	3/4" BSP	146	1.00	2.140	3.305
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	5.890	7.360

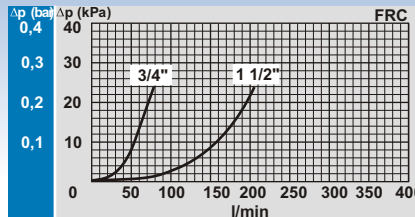


**FFP PRODUCTS ( HYDRAULICS DIVISION )**

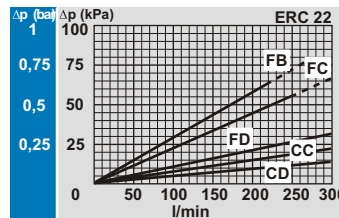
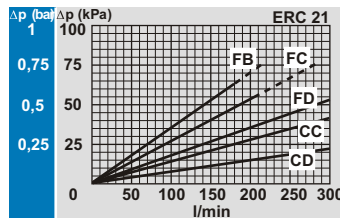
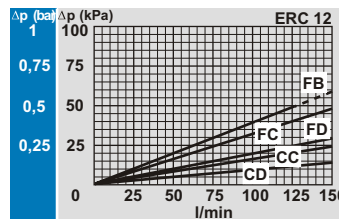
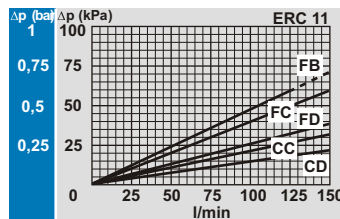
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The assembly Pressure drop ( $\Delta p$ ) is obtained by adding the pressure drop values of the filter housing and the clean filter element corresponding to the considered flow rate lower than 50 kPa ( 0.5 bar).

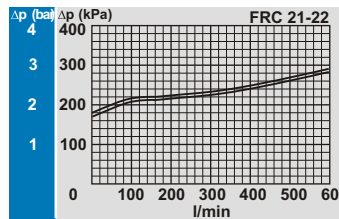
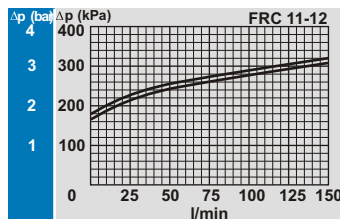
**FILTER HOUSING PRESSURE DROP**  
(mainly depending on the port size)



**CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ AND C+ MEDIA**



**BYPASS VALVE PRESSURE DROP**



Disclaimer : All the curves obtained are with mineral oil of kinematic viscosity of 30 cSt and specific gravity of 0.9 kg/dm<sup>2</sup>. All curves are obtained at test done at FFP PRODUCTS INDIA (TESTING DIVISION).

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		<b>TYPE</b>					
		F= FILTER COMPLETE	F	F	F	F	
		B= FILTER HOUSING	B	B	B	B	<b>ELEMENT</b>
<b>R</b>	<b>C</b>					<b>E</b>	
		<b>FAMILY SIZE &amp; LENGTH</b>				<b>FAMILY SIZE &amp; LENGTH</b>	
		11	12	21	22		<b>R C</b>
		<b>PORT TYPE</b>					
		B = BSP THREAD	B	B	B	B	
		<b>PORT SIZE</b>					
		06 = 3/4"	06	06			
		12 = 1.1/2"			12	12	
		<b>BY PASS VALVE</b>					
		B = 170 kPa ( 1.7 bar )	B	B	B	B	
		<b>SEALS</b>				<b>SEALS</b>	
		N = NBR NITRILE	N	N	N	N	N = NBR
		F = FKM FLUROELASTOMER	F	F	F	F	F = FKM
		<b>FILTER MEDIA</b>				<b>FILTER MEDIA</b>	
		FB = fiber 7 $\mu$ m <sub>(e)</sub> $\beta$ >1.000	FB	FB	FB	FB	FB = fiber 7 $\mu$ m <sub>(e)</sub>
		FC = fiber 12 $\mu$ m <sub>(e)</sub> $\beta$ >1.000	FC	FC	FC	FC	FC = fiber 12 $\mu$ m <sub>(e)</sub>
		FD = fiber 21 $\mu$ m <sub>(e)</sub> $\beta$ >1.000	FD	FD	FD	FD	FD = fiber 21 $\mu$ m <sub>(e)</sub>
		CC = cellulose 10 $\mu$ m $\beta$ >2	CC	CC	CC	CC	CC = cellulose 10 $\mu$ m
		CD = cellulose 25 $\mu$ m $\beta$ >2	CD	CD	CD	CD	CD= cellulose 25 $\mu$ m
		<b>CLOGGING INDICATOR</b>					
		05 = nr. 2 x 1/8" ports, plugged	05	05	05	05	
		F30= pressure gauge, rear connection	30	30	30	30	
		F80= press. switch, N.O.	80	80	80	80	
		F81= press. switch, N.C.	81	81	81	81	
		Fp1= SPDT, Pressure switch	P1	P1	P1	P1	
		<b>ACCESSORIES</b>					
		X = NO ACCESSORIES	X	X	X	X	

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