





MATERIALS

Head and cover: Aluminium alloy Diffusor: Zinc plated steel Element support:

Polyammide (aluminium alloy for FRF3+ and FRF4+) Magnetic core: Syntherized magnetic material

Seals: NBR Nitrile

(FKM Fluoroelastomer on request) Indicator housing: Brass

PRESSURE

Max. working: 1 MPa (10 bar)

Collapse, differential for the filter element (ISO 2941): 1 MPa (10 bar)

BYPASS VALVE

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

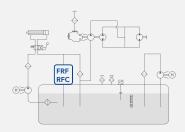
WORKING TEMPERATURE

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.







R	F	COMPLETE FILTER FAMILY					FILTER ELEMENT FAMILY	Е	R	F
		SIZE & LENGHT	11	12	13	14	SIZE & LENGHT			
		PORT TYPE								
		B = BSP thread	В	В	В	В				
		A = BSP thread, double port (only A08)	А	А	А	А				
		N = NPT thread	N	N	N	N				
		S = SAE thread	S	S	S	S				
		PORT SIZE								
		06 = 3/4"	06	06	06	06				
		08 = 1"	08	08	08	08				
		10 = 1" 1/4	10	10	10	10				
	F	BYPASS VALVE					_			
		F = 170 kPa (1,7 bar)	F	F	F	F				
		SEALS					SEALS			
		N = NBR Nitrile	N	N	N	N			1	
		F = FKM Fluoroelastomer	F	F	F	F				
		FILTER MEDIA			,	,	FILTER MEDIA			
		FA = fibreglass 5 μm(c) β>1.000	FA	FA	FA	FA				
		FB = fibreglass 7 μm(c) β>1.000	FB	FB	FB	FB				
		FC = fibreglass 12 μ m(c) β >1.000	FC	FC	FC	FC				
		FD = fibreglass 21 μ m(c) β >1.000	FD	FD	FD	FD				
		CC = impregnated cellulose 10 μm β>2	СС	CC	CC	CC				
		ME = wire mesh 60 μm	ME	ME	ME	ME				
		CLOGGING INDICATOR					-			
		05 = nr. 2 x 1/8" ports, plugged	05	05	05	05				
		30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30	30				
		P4 = SPDT, pressure switch	P4	P4	P4	P4				
		ACCESSORIES			,		-			
		W = without accessory	W	W	W	W				
		F = with diffusor	F	F	F	F	-			
		ACCESSORIES					_			
		W = without accessory	W	W	W	W				
		M = magnetic core	М	М	М	М				





R	F	С	COMPLETE FILTER FAMILY					FILTER ELEMENT FAMILY	С	R	С
			SIZE & LENGHT	110	120	130	140	SIZE & LENGHT			
			FILTER MEDIA					FILTER MEDIA			
			FT = fibreglass 5 μm(c) β>1.000	FT	FT	FT	FT				
			FC = fibreglass 7 μm(c) β>1.000	FC	FC	FC	FC				
			FD = fibreglass 12 μm(c) β>1.000	FD	FD	FD	FD				
			FV = fibreglass 21 μm(c) β>1.000	FV	FV	FV	FV				
			CD = impregnated cellulose 10 μm β>2	CD	CD	CD	CD				
			MS = wire mesh 60 μm	MS	MS	MS	MS				
			SEALS					SEALS			
			1 = NBR Nitrile	1	1	1	1				
			2 = FKM Fluoroelastomer	2	2	2	2				
		F	BYPASS VALVE								
			F = 170 kPa (1,7 bar)	F	F	F	F				
			PORT TYPE								
			B = BSP thread	В	В	В	В				
			N = NPT thread	N	N	N	N				
			S = SAE thread	S	S	S	S				
			PORT SIZE								
			4= 3/4"	4	4	4	4				
			5 = 1"	5	5	5	5				
			6 = 1" 1/4	6	6	6	6				
			CLOGGING INDICATOR								
			05 = nr. 2 x 1/8" ports, plugged	05	05	05	05				
			30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30	30				
			P4 = SPDT, pressure switch	P4	P4	P4	P4				
			ACCESSORIES								
			S = without accessory	S	S	S	S				
			D = with diffusor	D	D	D	D				
			ACCESSORIES								
			S = without accessory	S	S	S	S				
			M = magnetic core	М	М	М	М				





F R	F	COMPLETE FILTER FAMILY				FILTER ELEMENT FAMILY	Е	R	F
		SIZE & LENGHT	22	23	24	SIZE & LENGHT			
		PORT TYPE							
		B = BSP thread	В	В	В				
		A = BSP thread, double port (only AD1)	А	Α	Α				
		N = NPT thread	N	N	N				
		S = SAE thread	S	S	S				
		F = SAE flange 3000 psi	F	F	F				
		P = SAE flange 3000 psi, double port	Р	Р	Р				
		PORT SIZE				7			
		12 = 1" 1/2 (P12= 1"1/2 SAE+ 1" 1/2 BSP)	12	12	12				
		D1 = 1" 1/2 + 1" 1/4 (only AD1)	D1	D1	D1				
	F	BYPASS VALVE							
		F = 170 kPa (1,7 bar)	F	F	F				
		SEALS				SEALS			
		N = NBR Nitrile	N	N	N				
		F = FKM Fluoroelastomer	F	F	F				
		FILTER MEDIA				FILTER MEDIA			
		FA = fibreglass 5 μ m(c) β >1.000	FA	FA	FA				
		FB = fibreglass 7 μ m(c) β >1.000	FB	FB	FB				
		FC = fibreglass 12 μ m(c) β >1.000	FC	FC	FC				
		FD = fibreglass 21 μm(c) β>1.000	FD	FD	FD				
		CC = impregnated cellulose 10 μm β>2	CC	CC	CC				
		ME = wire mesh 60 μm	ME	ME	ME	-			
		CLOGGING INDICATOR**				1			
		05 = nr. 2 x 1/8" ports, plugged	05	05	05				
		30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30	-			
		P4 = SPDT, pressure switch	P4	P4	P4	-			
		03 = port for differential indicator, 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°C	TO	TO	TO	_			
		ACCESSORIES	10	10	10	J			
			14/	14/	14/]			
		W = without accessory	W	W	W	-			
		F = with diffusor	F	F	F]			
		ACCESSORIES	,	,	,	7			
		W = without accessory	W	W	W	_			
		M = magnetic core	M	M	M				





SIZE & LENGHT	R	F	С	COMPLETE FILTER FAMILY				FILTER ELEMENT FAMILY	С	R	С
FT = fibreglass 5 μm(c) β>1.000 FT FT FT FT FC = fibreglass 7 μm(c) β>1.000 FC FC FC FC FC FC FD = fibreglass 12 μm(c) β>1.000 FD FD FD FD FD FD FD FV = fibreglass 21 μm(c) β>1.000 FV				SIZE & LENGHT	220	230	240	SIZE & LENGHT			
FC = fibreglass 7 μm(c) β>1.000				FILTER MEDIA				FILTER MEDIA			
FD = fibreglass 12 μm(c) β>1.000 FD FD FD FV = fibreglass 21 μm(c) β>1.000 FV FV FV FV FV CD = impregnated cellulose 10 μm β>2 CD CD CD MS = wire mesh 60 μm MS MS SEALS 1 = NBR Nitrile 1 1 1 1 2 = FKM Fluoroelastomer 2 2 2 2 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F PORT TYPE B = BSP thread B B B B N = NPT thread S S S S F = SAE flange 3000 psi F F F PORT SIZE 7 = 1* 1/2 CLOGGING INDICATOR** 05 = nr. 2 x 1/8* ports, plugged 03 03 03 03 03 P4 = SPDT, pressure switch 03 = port for differential 130 kPa (1,3 bar) 5B 5B 5B B = electrical differential 130 kPa (1,3 bar) 6B 6B 6B F = indicator 6B with LED 7B 7B 7B TO = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 ACCESSORIES S = without accessory S S S E without accessory S S S E without accessory S S S				FT = fibreglass 5 μm(c) β>1.000	FT	FT	FT				
FV = fibreglass 21 μm(c) β>1.000 FV FV FV FV CD = impregnated cellulose 10 μm β>2 CD CD CD CD CD MS = wire mesh 60 μm MS MS MS MS SEALS 1 = NBR Nitrile 1 1 1 1 1 1 2 = FKM Fluoroelastomer 2 2 2 2 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F F PORT TYPE B = BSP thread B B B B N N N N N N N S S SAL S S S S S S S S S S S S S S S S				FC = fibreglass 7 μm(c) β>1.000	FC	FC	FC				
CD = impregnated cellulose 10 μm β>2				FD = fibreglass 12 μm(c) β>1.000	FD	FD	FD				
MS = wire mesh 60 µm MS MS MS SEALS SEALS SEALS 1 = NBR Nitrile 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				FV = fibreglass 21 μ m(c) β >1.000	FV	FV	FV				
SEALS SEALS 1 = NBR Nitrile 1 1 1 1 2 = FKM Fluoroelastomer 2 2 2 2 F BYPASS VALVE F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F F PORT TYPE B B B B B B B B B B B B B B B B B B B				CD = impregnated cellulose 10 μm β>2	CD	CD	CD				
1 = NBR Nitrile 1 1 1 2 = FKM Fluoroelastomer 2 2 2 F BYPASS VALVE F F F F = 170 kPa (1,7 bar) F F F PORT TYPE B B B B B B = BSP thread N N N N N S = SAE thread S S S S S F = SAE flange 3000 psi F F F F PORT SIZE T 7 7 7 7 CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 = 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 = 30 30 30 30 P4 = SPDT, pressure switch P4 P4				MS = wire mesh 60 μm	MS	MS	MS				
2 = FKM Fluoroelastomer 2 2 2 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F PORT TYPE B = BSP thread B B B B B B B B B B B B B B B B B B B				SEALS				SEALS			
F BYPASS VALVE F = 170 kPa (1,7 bar) F F F PORT TYPE B = BSP thread B B B B N = NPT thread N N N N S = SAE thread S S S F = SAE flange 3000 psi F F F PORT SIZE 7 = 1" 1/2 7 7 7 CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch 03 = port for differential indicator, plugged 03 = port for differential indicator, plugged 03 = port for differential indicator, plugged 03 = port for differential 130 kPa (1,3 bar) 6B = electrical differential 130 kPa (1,3 bar) 6B = electrical differential 130 kPa (1,3 bar) T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 ACCESSORIES S = without accessory S S S S S S				1 = NBR Nitrile	1	1	1				
F = 170 kPa (1,7 bar) F F F PORT TYPE B B B B B N = NPT thread N N N N N S = SAE thread S S S S F				2 = FKM Fluoroelastomer	2	2	2				
PORT TYPE B = BSP thread B B B N = NPT thread N N N S = SAE thread S S S F = SAE flange 3000 psi F F F PORT SIZE 7 7 7 7 = 1" 1/2 7 7 7 CLOGGING INDICATOR** 05 nr. 2 x 1/8" ports, plugged 05 = nr. 2 x 1/8" ports, plugged 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 94 = SPDT, pressure switch P4 P4 03 = port for differential indicator, plugged 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 7D = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C 70 T0 T0 ACCESSORIES S S S S = without accessory S S S S = without accessory S S S			F	BYPASS VALVE							
B = BSP thread				F = 170 kPa (1,7 bar)	F	F	F				
N = NPT thread				PORT TYPE				_			
S = SAE thread S S F = SAE flange 3000 psi F F PORT SIZE 7 = 1" 1/2 7 7 7 CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch P4 P4 P4 P4 03 = port for differential indicator, 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 7B T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 ACCESSORIES S S S S = without accessory S S S S = without accessory S S S				B = BSP thread	В	В	В				
F				N = NPT thread	N	N	N				
PORT SIZE 7 = 1" 1/2 CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch 03 = port for differential indicator, plugged 03 03 03 5B = visual differential 130 kPa (1,3 bar) 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°C ACCESSORIES S = without accessory S S S D = with diffusor D D ACCESSORIES S = without accessory S S S S S S				S = SAE thread	S	S	S				
7 = 1" 1/2 7 7 7 CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch P4 P4 P4 03 = port for differential indicator, 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°C T0 T0 T0 ACCESSORIES S S S S = without accessory D D D ACCESSORIES S S S S = without accessory S S S				F = SAE flange 3000 psi	F	F	F				
CLOGGING INDICATOR** 05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch P4 P4 P4 03 = port for differential indicator, 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°C T0 T0 T0 ACCESSORIES S = without accessory S S S D = with diffusor D D ACCESSORIES S S S				PORT SIZE							
05 = nr. 2 x 1/8" ports, plugged 05 05 05 30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30 P4 = SPDT, pressure switch P4 P4 P4 03 = port for differential indicator, 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°C T0 T0 T0 ACCESSORIES S S S S = without accessory S S S S = without accessory S S S				7 = 1" 1/2	7	7	7				
30 = manometer, scale 0 - 600 kPa (0 - 6 bar) P4 = SPDT, pressure switch P4 P4 P4 P4 P4 03 = port for differential indicator, plugged P5 P				CLOGGING INDICATOR**							
P4 = SPDT, pressure switch 03 = port for differential indicator, 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 7B = indicator 6B with LED 7B 7B 7B T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 ACCESSORIES S = without accessory S S S D = with diffusor ACCESSORIES S = without accessory S S S S S S = without accessory S S S S				05 = nr. 2 x 1/8" ports, plugged	05	05	05				
03 = port for differential indicator, 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°C ACCESSORIES S = without accessory S S S D = with diffusor ACCESSORIES S = without accessory S S S D = with diffusor ACCESSORIES S = without accessory S S S S S				30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30				
5B = visual differential 130 kPa (1,3 bar) 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°C ACCESSORIES S = without accessory S S S D = with diffusor ACCESSORIES S = without accessory S S S D = with diffusor S = without accessory S S S S				P4 = SPDT, pressure switch	P4	P4	P4				
6B = electrical differential 130 kPa (1,3 bar) 6B 6B 6B 6B 7B = indicator 6B with LED 7B 7B 7B T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 ACCESSORIES S = without accessory S S S D = with diffusor D D ACCESSORIES S = without accessory S S S S = without accessory S S S ACCESSORIES				03 = port for differential indicator, plugged	03	03	03				
7B = indicator 6B with LED 7B 7B 7B 7B T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 ACCESSORIES S = without accessory S S S D = with diffusor D D ACCESSORIES S = without accessory S S S S = without accessory S S S S = without accessory S S S				5B = visual differential 130 kPa (1,3 bar)	5B	5B	5B				
T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 ACCESSORIES S = without accessory S S S D = with diffusor D D D ACCESSORIES S = without accessory S S S S				6B = electrical differential 130 kPa (1,3 bar)	6B	6B	6B				
ACCESSORIES S = without accessory SSSSS D = with diffusor DDD ACCESSORIES S = without accessory SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS				7B = indicator 6B with LED	7B	7B	7B				
S = without accessory S S S D = with diffusor D D D ACCESSORIES S = without accessory S S S S				T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C	T0	T0	T0				
D = with diffusor ACCESSORIES S = without accessory S S S S				ACCESSORIES							
ACCESSORIES S = without accessory S S S S				S = without accessory	S	S	S				
S = without accessory S S S				D = with diffusor	D	D	D				
				ACCESSORIES							
M = magnetic core M M M				S = without accessory	S	S	S				
				M = magnetic core	М	М	М				

NOTES

(please see Clogging Indicator Chapter for further details)

^{**} When the filter is ordered with FKM seals, the first digit of the indicator code is a letter





F	R	F	COMPLETE FILTER FAMILY					FILTER ELEMENT FAMILY	Е	R	F
			SIZE & LENGHT	31	32	33	34	SIZE & LENGHT			
			PORT TYPE								
			F = SAE flange 3000 psi	F	F	F	F				
			P = SAE flange 3000 psi, double port	Р	Р	Р	Р				
			PORT SIZE					-			
			16 = 2"	16	16	16	16				
			20 = 2"1/2	20	20	20	20				
			DA = fl. 2"1/2 + 2"	DA	DA	DA	DA				
			D7 = fl. 2"+ 1"1/2	D7	D7	D7	D7				
		F	BYPASS VALVE								
			F = 170 kPa (1,7 bar)	F	F	F	F				
			SEALS					SEALS			
			N = NBR Nitrile	N	N	N	N				
			F = FKM Fluoroelastomer	F	F	F	F				
			FILTER MEDIA					FILTER MEDIA			
			FA = fibreglass 5 μm(c) β>1.000	FA	FA	FA	FA				
			FB = fibreglass 7 μm(c) β>1.000	FB	FB	FB	FB				
			FC = fibreglass 12 μm(c) β>1.000	FC	FC	FC	FC				
			FD = fibreglass 21 μm(c) β>1.000	FD	FD	FD	FD				
			CC = impregnated cellulose 10 μm β>2	CC	CC	CC	CC				
			ME = wire mesh 60 μm	ME	ME	ME	ME				
			CLOGGING INDICATOR**					-			
			05 = nr. 2 x 1/8" ports, plugged	05	05	05	05				
			30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30	30				
			P4 = SPDT, pressure switch	P4	P4	P4	P4				
			03 = port for differential indicator, plugged	03	03	03	03				
			5B = visual differential 130 kPa (1,3 bar)	5B	5B	5B	5B				
			6B = electrical differential 130 kPa (1,3 bar)	6B	6B	6B	6B				
			7B = indicator 6B with LED	7B	7B	7B	7B				
			T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C	T0	TO	T0	TO				
			ACCESSORIES								
			W = without accessory	W	W	W	W				
			F = with diffusor	F	F	F	F				
			ACCESSORIES			,		-			
			W = without accessory	W	W	W	W				
			M = magnetic core	М	М	М	М				





С	COMPLETE FILTER FAMILY					FILTER ELEMENT FAMILY	С	R	С
	SIZE & LENGHT	310	320	330	340	SIZE & LENGHT			
	FILTER MEDIA					FILTER MEDIA			
	FT = fibreglass 5 μm(c) β>1.000	FT	FT	FT	FT				
	FC = fibreglass 7 μm(c) β>1.000	FC	FC	FC	FC				
	FD = fibreglass 12 μ m(c) β >1.000	FD	FD	FD	FD				
	FV = fibreglass 21 μ m(c) β >1.000	FV	FV	FV	FV				
	CD = impregnated cellulose 10 μm β>2	CD	CD	CD	CD				
	MS = wire mesh 60 μm	MS	MS	MS	MS				
	SEALS					SEALS			
	1 = NBR Nitrile	1	1	1	1				
	2 = FKM Fluoroelastomer	2	2	2	2				
F	BYPASS VALVE								
	F = 170 kPa (1,7 bar)	F	F	F	F				
	PORT TYPE								
	F = SAE flange 3000 psi	F	F	F	F				
	PORT SIZE								
	9 = 2" 1/2	9	9	9	9				
	CLOGGING INDICATOR**								
	$05 = \text{nr. } 2 \times 1/8 \text{" ports, plugged}$	05	05	05	05				
	30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	30	30	30				
	P4 = SPDT, pressure switch	P4	P4	P4	P4				
	03 = port for differential indicator, plugged	03	03	03	03				
	5B = visual differential 130 kPa (1,3 bar)	5B	5B	5B	5B				
	6B = electrical differential 130 kPa (1,3 bar)	6B	6B	6B	6B				
	7B = indicator 6B with LED	7B	7B	7B	7B				
	T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C	T0	T0	T0	T0				
	ACCESSORIES					1			
	S = without accessory	S	S	S	S				
	D = with diffusor	D	D	D	D				
	ACCESSORIES		ı			1			
	S = without accessory	S	S	S	S				
	M = magnetic core	М	М	М	М				

NOTES

(please see Clogging Indicator Chapter for further details)

^{**} When the filter is ordered with FKM seals, the first digit of the indicator code is a letter





SIZE & LENGHT	F
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
P = SAE flange 3000 psi, double port P P P P PORT SIZE 24 = 3"	_
PORT SIZE 24 = 3" 24 24 24 24 24 32 = 4" 32 32 32 32 32 D9= 3"+ 4" D9 D9 D9 D9 D9 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F F SEALS N = NBR Nitrile N N N N N F = FKM Fluoroelastomer F F F F FILTER MEDIA FA = fibreglass 5 μm(c) β>1.000 FA FA FA FA FA	
24 = 3" 32 = 4" 32 = 4" D9 D9 D9 D9 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F F SEALS N = NBR Nitrile N N N N N F = FKM Fluoroelastomer F F F F F FILTER MEDIA FA = fibreglass 5 μm(c) β>1.000 FA FA FA FA FA	
32 = 4" D9 = 3" + 4" D9 D9 D9 D9 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F F SEALS N = NBR Nitrile N N N N N F = FKM Fluoroelastomer F F F F F FILTER MEDIA FA = fibreglass 5 μm(c) β>1.000 FA FA FA FA FA	
D9 3" + 4" D9 D9 D9 D9 F BYPASS VALVE F = 170 kPa (1,7 bar) F F F F SEALS N = NBR Nitrile N N N N N F = FKM Fluoroelastomer F F F F FILTER MEDIA FA = fibreglass 5 μm(c) β>1.000 FA FA FA FA FA	
$F = 170 \text{ kPa } (1,7 \text{ bar})$ $F = F$ $SEALS$ $N = NBR \text{ Nitrile}$ $N = NBR \text{ Nitrile}$ $F = F = F$ $FILTER \text{ MEDIA}$ $FA = \text{ fibreglass } 5 \mu\text{m(c) } \beta > 1.000$ $FA = FA = FA = FA$	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$N = NBR \ Nitrile $	
$F = FKM \ Fluoroelastomer \qquad \qquad F \qquad F \qquad F \qquad F$ $FILTER \ MEDIA \qquad \qquad FA = \ fibreglass \ 5 \ \mu m(c) \ \beta > 1.000 \qquad \qquad FA \qquad FA \qquad FA \qquad FA$	
FILTER MEDIA FA = fibreglass 5 μ m(c) β >1.000 FA FA FA FA FA	
FA = fibreglass 5 μm(c) β>1.000 FA FA FA FA	
FB = fibreglass 7 μ m(c) β >1.000 FB FB FB FB	
FC = fibreglass 12 μ m(c) β >1.000 FC FC FC	
FD = fibreglass 21 μ m(c) β >1.000 FD FD FD	
CC = impregnated cellulose 10 μ m β >2	
$ME = wire mesh 60 \mu m$ $ME ME ME ME$	
CLOGGING INDICATOR**	
05 = nr. 2 x 1/8" ports, plugged 05 05 05 05	
30 = manometer, scale 0 - 600 kPa (0 - 6 bar) 30 30 30	
P4 = SPDT, pressure switch P4 P4 P4 P4	
03 = port for differential indicator, plugged 03 03 03 03	
5B = visual differential 130 kPa (1,3 bar) 5B 5B 5B 5B	
6B = electrical differential 130 kPa (1,3 bar) 6B 6B 6B 6B	
7B = indicator 6B with LED 7B 7B 7B 7B	
T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C T0 T0 T0 T0	
ACCESSORIES	
W = without accessory W W W W	
F = with diffusor F F F F	
ACCESSORIES	
W = without accessory W W W W	
M = magnetic core M M M M	

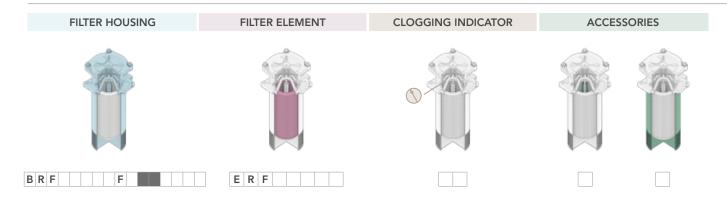
NOTES

(please see Clogging Indicator Chapter for further details)

^{**} When the filter is ordered with FKM seals, the first digit of the indicator code is a letter



SPARE PARTS ELEMENTS



SPARE SEAL KIT

FRF42

FRF43

FRF44

FRF11 RFC110 521.0055.2 521.0056.2 FRF12 RFC120 521.0055.2 521.0056.2 FRF13 521.0055.2 521.0056.2 RFC130 FRF14 RFC140 521.0055.2 521.0056.2 FRF22 RFC220 521.0020.2 521.0057.2 FRF23 RFC230 521.0020.2 521.0057.2 FRF24 RFC240 521.0020.2 521.0057.2 FRF31 RFC310 521.0021.2 521.0058.2 FRF32 RFC320 521.0021.2 521.0058.2 FRF33 RFC330 521.0021.2 521.0058.2 FRF34 521.0021.2 521.0058.2 RFC340 FRF41 521.0095.2 521.0096.2

521.0095.2

521.0095.2

521.0095.2

NBR

FKM

521.0096.2

521.0096.2

521.0096.2

SPARE SPRING

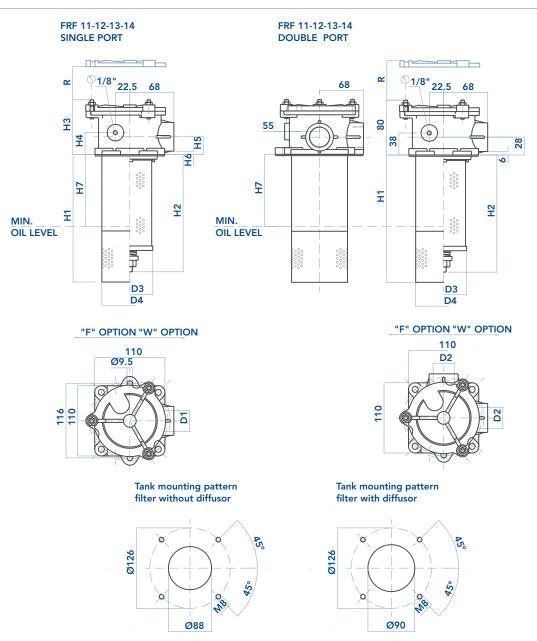
008.0282.1
008.0282.1
008.0282.1
008.0282.1
008.0269.1
008.0269.1
008.0269.1
008.0275.1
008.0275.1
008.0275.1
008.0275.1
008.0283.1
008.0283.1
008.0283.1
008.0283.1

FRF1-RFC1 RETURN FILTERS





INSTALLATION DRAWING



	D1	D2	D3	D4	D5	H1	H2	НЗ	Н4	Н5	Н6	H7	R	Kg
FRF11 RFC110	3/4" - 1" - 1" 1/4	1"	72	89	9	198	140	90	38	28÷32	6	118	230	1,20
FRF12 RFC120	3/4" - 1" - 1" 1/4	1"	72	89	9	198	185	90	38	28÷32	6	118	275	1,40
FRF13 RFC130	3/4" - 1" - 1" 1/4	1"	72	89	9	250	235	90	38	28÷32	6	170	325	1,50
FRF14 RFC140	3/4" - 1" - 1" 1/4	1"	72	89	9	350	335	90	38	28÷32	6	270	445	1,70

FRF2-RFC2 RETURN FILTERS

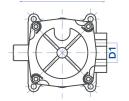




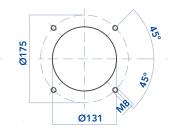
INSTALLATION DRAWING

FRF 22-23-24 SINGLE PORT

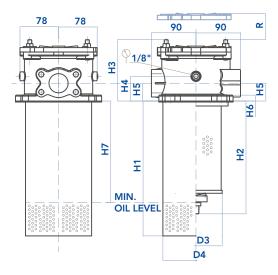
"F" OPTION "W" OPTION



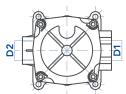
Tank mounting pattern filter without diffusor



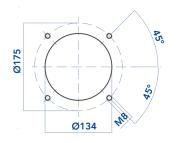
FRF 22-23-24 DOUBLE PORT



"F" OPTION "W" OPTION



Tank mounting pattern filter with diffusor

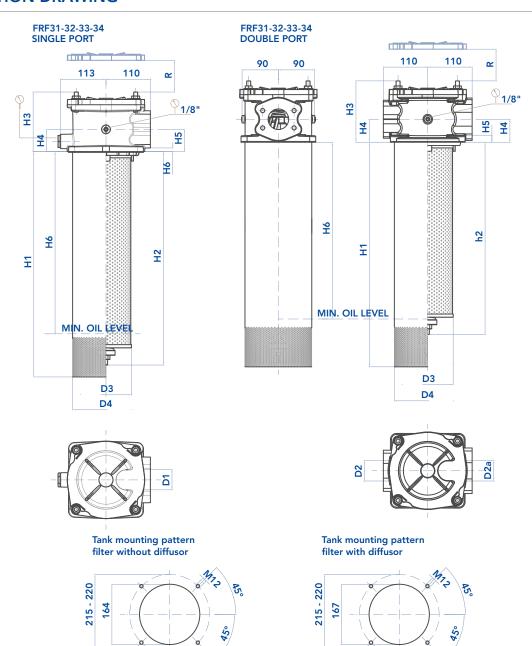


	D1	D2	D3	D4	H1	H2	Н3	H4	Н5	Н6	H7	R	Kg
FRF22 RFC220	1" 1/2	1"1/4 ÷ 1"1/2	106	133	250	225	129	50	36	12	150	310	4,20
FRF23 RFC230	1" 1/2	1"1/4 ÷ 1"1/2	106	133	320	295	129	50	36	12	220	380	4,70
FRF24 RFC240	1" 1/2	1"1/4 ÷ 1"1/2	106	133	525	500	129	50	36	12	425	580	5,00

FRF3-RFC3 RETURN FILTERS



INSTALLATION DRAWING



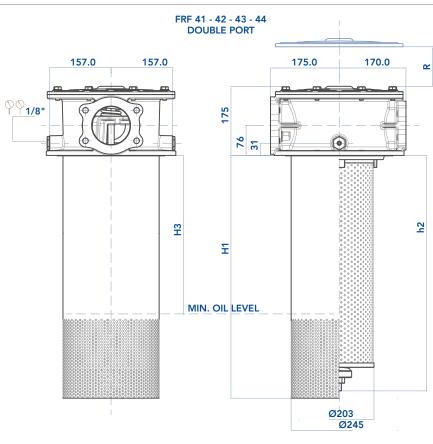
	D1	D2	D2a	D3	D4	H1	H2	Н3	H4	H5	Н6	R	Kg
FRF31 RFC310	2" - 2"1/2	2" - 2"1/2	1"1/2 - 2"	126	165,5	290	260	155	55	14	190	350	8,00
FRF32 RFC320	2" - 2"1/2	2" - 2"1/2	1"1/2 - 2"	126	165,5	370	340	155	55	14	270	430	8,40
FRF33 RFC330	2" - 2"1/2	2" - 2"1/2	1"1/2 - 2"	126	165,5	470	440	155	55	14	370	580	8,60
FRF34 RFC340	2" - 2"1/2	2" - 2"1/2	1"1/2 - 2"	126	165,5	560	530	155	55	14	460	620	9,10



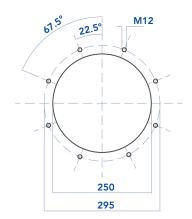


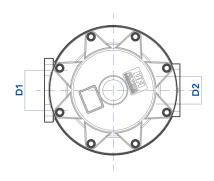


INSTALLATION DRAWING



Tank mounting pattern





	D1	D2	H1	H2	Н3	R
FRF41	3"	4"	405	396	205	600
FRF42	3"	4"	620	611	420	810
FRF43	3"	4"	900	891	700	1.090
FRF44	3"	4"	1165	1156	965	1.360







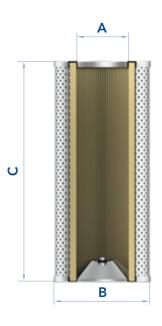
MAINTENANCE

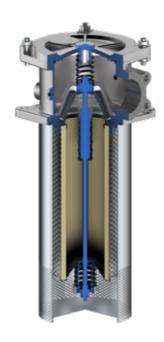
The best time to change your filter element is just before it reaches its maximum dirt-holding capacity. For this reason, we recommend to monitor the pressure of the hydraulic oil flowing through the filter with a clogging indicator. When it is time to change the filter element, switch off the system.

Loosen the nuts of the cover, turn clockwise and remove it. Extract the dirty filter element using theupper handle, if necessary remove the spring.

Unscrew the nut at the bottom of the element from the tie rod. Remove the spring holder and the spring. Replace it with an original UFI element, verifying the part number on the filter label or on the catalogue. Assembly in sequence the spring, the spring holder and screw the nut on the tie rod until it stops. Position the cover and tighten the nuts until it stops.

We recommend the stocking of a spare UFI filter element for timely replacement when required.





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.

FILTER ELEMENT

$\overline{}$		

					AREA (cm ²)			
	Α	В	С	Kg	Media F+	Media C+	Media M+	
ERF11 CRC110	45	72	106	0,25	770	1.250	460	
ERF12 CRC120	45	72	150	0,35	1.170	1.800	650	
ERF13 CRC130	45	72	200	0,45	1.570	2.450	880	
ERF14 CRC140	45	72	300	0,60	2.370	3.600	1.320	

FRF3-RFC3

ERF31 CRC310	92	126	210	1,15	5.500	6.650	2.250
ERF32 CRC320	92	126	290	1,50	7.700	9.200	3.150
ERF33 CRC330	92	126	390	1,90	10.400	12.400	4.250
ERF34 CRC340	92	126	480	2,20	12.800	15.400	5.250

FRF2-RFC2

					AREA (cm ²)			
	Α	В	С	Kg	Media F+	Media C+	Media M+	
ERF22 CRC220	72	106	190	0,75	3.900	4.600	1.500	
ERF23 CRC230	72	106	260	1,00	5.400	6.400	2.050	
ERF24 CRC240	72	106	465	1,50	9.700	11.800	3.670	

FRF4

ERF41	157	203	330	3,90	17.900	22.100	6.400
ERF42	157	203	545	5,20	30.000	37.000	10.800
ERF43	157	203	825	9,00	45.200	55.500	16.200
ERF44	157	203	1.090	13,00	60.000	74.000	21.800







PRESSURE DROP CURVES (ΔP) 1+ DIAGRAMS

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

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

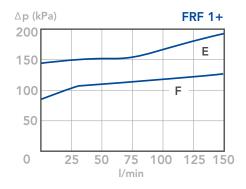
Δp (kPa) FRF 1+

40
3/4" 1" 1"1/4
30
20
10 200 300 400 500 600

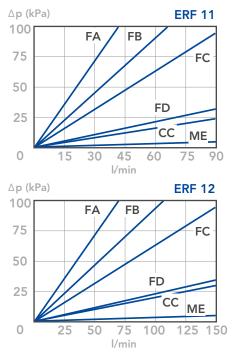
Rate and it must be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

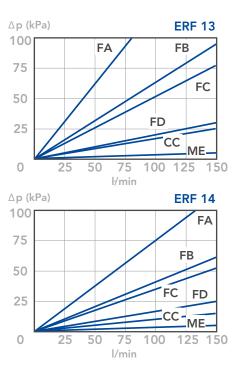
BYPASS VALVE PRESSURE DROP

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.



CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C AND ME 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



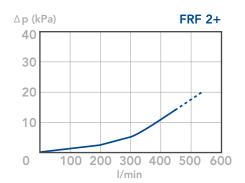




PRESSURE DROP CURVES (ΔP) 2+ DIAGRAMS

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

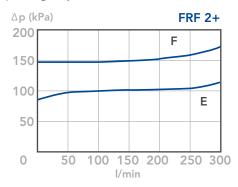
FILTER HOUSING PRESSURE DROP (mainly depending on the port size)



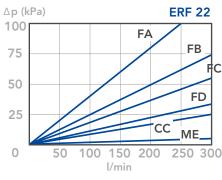
Rate and it must be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

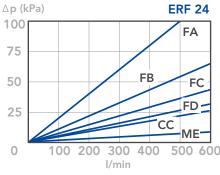
BYPASS VALVE PRESSURE DROP

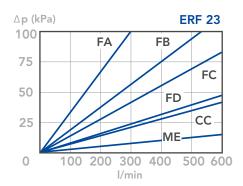
When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.



CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND ME 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







PRESSURE DROP CURVES (ΔP) 3+ DIAGRAMS

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

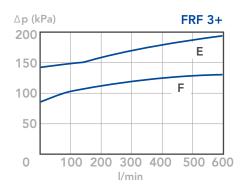
FILTER HOUSING PRESSURE DROP (mainly depending on the port size)

Δp (kPa) FRF 3+
40
30
20
10
0 200 400 600 800 1000 1200

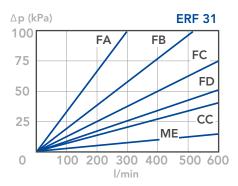
Rate and it must be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

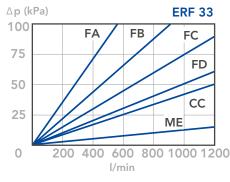
BYPASS VALVE PRESSURE DROP

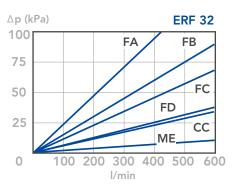
When selecting the filter size, these curves must be taken into account if it is foreseen that any flow peak is to be absorbed by the bypass valve, it also must be of proper configuration to avoid pressure peaks. The valve pressure drop is directly proportional to fluid specific gravity.

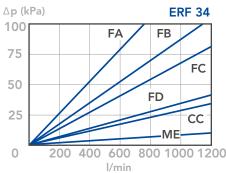


CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, C+ AND ME MEDIA (depending both on the internal diameter of the element and on the filter media)









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



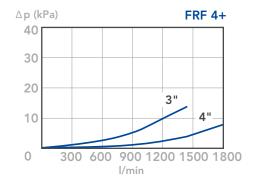




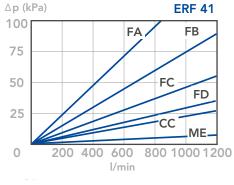
PRESSURE DROP CURVES (ΔP) 4+ DIAGRAMS

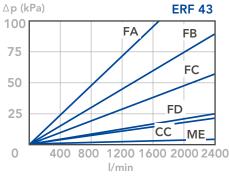
The "Assembly Pressure Drop (Δp)" is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow

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



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

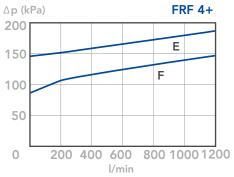


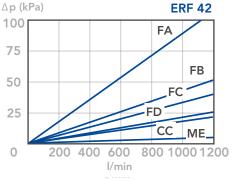


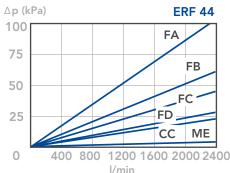
Rate and it must be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

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