



# **GRF**RETURN FILTERS



# **DESCRIPTION**

Ecofriendly in-out tank top return filter

## **MATERIALS**

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

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) ± 10%

# **FLOW RATE**

Qmax 1200 l/min

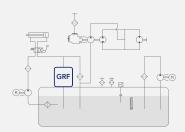
## **WORKING TEMPERATURE**

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





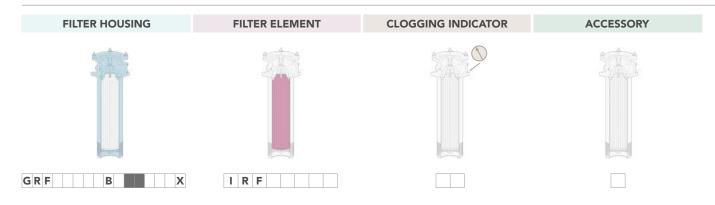
# **ORDERING AND OPTION CHART**

G	R	F	COMPLETE FILTER FAMILY		FILTER ELEMENT FAMILY
			SIZE & LENGTH	34	SIZE & LENGTH
			PORT TYPE		
			F = SAE flange 3000 psi	F	
			PORT SIZE		
			16 = 2"	16	
			20 = 2"1/2	20	
		F	BYPASS VALVE		_
			F = 170 kPa (1,7 bar)	F	
			SEALS		SEALS
			N = NBR Nitrile	N	
			F = FKM Fluoroelastomer	F	
			FormulaUFI MEDIA		FormulaUFI MEDIA
			FA = FormulaUFI.MICRON 5 $\mu$ m <sub>(c)</sub> $\beta$ >1.000	FA	
			FB = FormulaUFI.MICRON 7 $\mu m_{(c)} \beta > 1.000$	FB	
			FC = FormulaUFI.MICRON 12 μm <sub>(c)</sub> β>1.000	FC	
			FD = FormulaUFI.MICRON 21 μm <sub>(c)</sub> β>1.000	FD	
			CLOGGING INDICATOR (**)		
			05 = nr. 2 x 1/8" ports, plugged	05	
			30 = manometer, scale 0 - 600 kPa (0 - 6 bar)	30	
			P4 = SPDT, pressure switch	P4	
			03 = port for differential indicator, plugged	03	
			5B = visual differential 130 kPa (1,3 bar)	5B	
			6B = electrical differential 130 kPa (1,3 bar)	6B	
			7B = indicator 6B with LED	7B	
			T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C	T0	** When the filter
			ACCESSORIES		with FKM sea
			W = without accessory	W	digit of the ind
			F = with diffusor	F	is a letter
			ACCESSORIES		(please see Clo
			W = without accessory	W	Indicator Chap
			M = magnetic core	M	further details)

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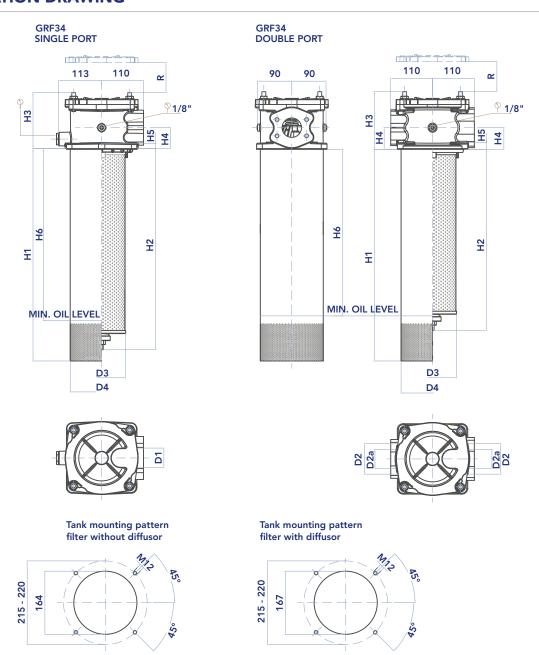
I R F

## **SPARE PARTS**





# **INSTALLATION DRAWING**



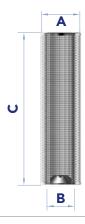
# **FILTER HOUSING**

	<b>D1</b>	D2	D2a	D3	D4	H1	H2	Н3	H4	H5	Н6	R	Kg
GRF34	2" - 2"1/2	2" - 2"1/2	1"1/2 - 2"	126	165,5	543	530	155	55	14	460	620	9,10



#### **FILTER ELEMENT**

	A	В	С	Kg	AREA (cm²) Media F+
IRF34	90	120,8	480	0,75	10.810



# **MAINTENANCE**

- 1) Stop the system and verify there is no pressure in the filter.
- 2) Loosen the nuts (1) on the cover (2). N.B. it is not necessary to disassemble the nuts, use the slots on the cover.
- 3) Turn the cover (2) clockwise and remove it.
- 4) Extract the filter element using the handle (3).
- 5) At the bottom of the element, unscrew the nut (4) from the tie-rod (5) locking the nut (6) with a wrench to prevent rotation of the tie-rod. Remove the spring holder washer (7) and the spring (8).
- 6) Remove the dirty filter element (9).
  - N.B. The exhausted filter elements and the dirty filter components are classified "Dangerous waste material" and must be disposed of according to the local laws, by authorized Companies.
- 7) Check the filter element part number on the filter label or in the ordering and option chart. Use only original spare parts.
- 8) Insert the clean element (9) in the perforated pipe (10) until it stops on lower cap (10a).
- 9) Assembly the spring (8), the spring holder (7) and screw the nut (4) on the tie-rod (5) until it stops.
- 10) Check the correct position and the condition of handle O-ring gasket (11). Clean and lubricate with oil. If damaged, check the seal kit part number in the catalogue or contact the customer care service.
- 11) Replace the filter element assembly (with the handle) into the housing with the upper spring (12).
- 12) Check the correct positioning and the condition of the O-ring gasket (13) of the cover(2) and lubricate with oil. If damaged, check the seal kit part number in the catalogue or contact the customer care service.
- 13) Position the cover (2) and tighten the nuts (1) until it stops.

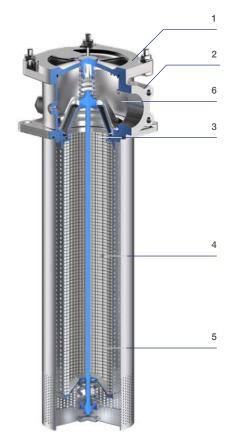
#### Accessories:

#### Clogging indicator

If damaged, unscrew and replace it (check the part number in the ordering and option chart).

Indicators with thread M20x1,5: Lubricate the O-ring gaskets and tighten until it stops, with a tightening torque of 40 Nm +5/0.

Indicators with conical thread 1/8": Apply a thread-sealing and screw until tight. N.B. An over-tightening can damage the thread.



# PRESSURE DROP CURVES (ΔP)

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

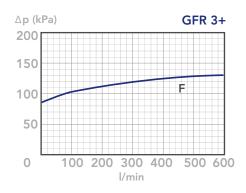
FILTER HOUSING PRESSURE DROP (mainly depending on the port size)

Δp (kPa) GRF 3+
40
30
20
10
0 200 400 600 800 10001200

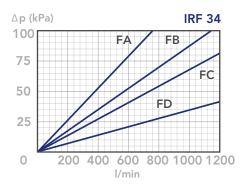
Rate and it must be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

#### 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+ 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 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.

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