



UFI FILTERS
Filtri Oleodinamici
Filtri di ricircolo



 HYDRAULIC
COMPONENTS
& FLUID CONTAMINATION
CONTROL



FOF

OFF-LINE FILTERS

DESCRIPTION

Off-line filter, inside to outside filtration

MATERIALS

Head and covers: Aluminum alloy

Bowl: Steel

Element Holder: Polyamide FOF2

Aluminum Alloy FOF3 and FOF4

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):

3 MPa (30 bar)

BYPASS VALVE

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

FLOW RATE

Qmax 1500 l/min

WORKING TEMPERATURE

From -25° to +110° C

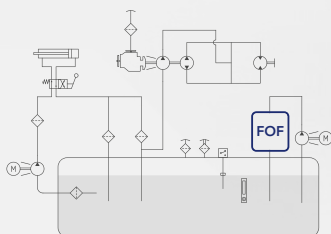
COMPATIBILITY (ISO 2943)

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



FOF

OFF-LINE FILTERS

ORDERING AND OPTION CHART





F	O	F	COMPLETE FILTER FAMILY						FILTER ELEMENT FAMILY	E	R	F
			SIZE & LENGTH	24	34	36	41	44	SIZE & LENGTH			
			PORT TYPE									
			B = BSP thread	B	-	-	-	-				
			N = NPT thread	N	-	-	-	-				
			S = SAE thread	S	-	-	-	-				
			F = SAE flange 3000 psi	F	F	F	F	F				
			PORT SIZE									
			12 = 1" 1/2	12	-	-	-	-				
			16 = 2"	-	16	16	-	-				
			20 = 2" 1/2	-	20	20	-	-				
			24 = 3"	-	-	-	24	24				
			32 = 4"	-	-	-	32	32				
			BYPASS VALVE									
			W = without bypass	W	W	W	W	W				
			F = 170 kPa (1,7 bar)	F	F	F	F	F				
			SEALS						SEALS			
			N = NBR Nitrile	N	N	N	N	N				
			F = FKM Fluoroelastomer	F	F	F	F	F				
			FormulaUFI MEDIA						FormulaUFI MEDIA			
			FA = FormulaUFI.MICRON 5 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FA	FA	FA	FA	FA				
			FB = FormulaUFI.MICRON 7 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FB	FB	FB	FB	FB				
			FC = FormulaUFI.MICRON 12 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FC	FC	FC	FC	FC				
			FD = FormulaUFI.MICRON 21 $\mu\text{m}_{(c)}$ $\beta > 1.000$	FD	FD	FD	FD	FD				
			CC = FormulaUFI.CELL 10 μm $\beta > 2$	CC	CC	CC	CC	CC				
			ME = FormulaUFI.WEB 60 μm	ME	ME	ME	ME	ME				
			WR = FormulaUFI.H2O (*)	WR	WR	WR	WR	WR				
			CLOGGING INDICATOR**									
			03 = port, plugged	03	03	03	03	03				
			5B = visual differential 130 kPa (1,3 bar)	5B	5B	5B	5B	5B				
			6B = electrical differential 130 kPa (1,3 bar)	6B	6B	6B	6B	6B				
			7B = indicator 6E with LED	7B	7B	7B	7B	7B				
			T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C	T0	T0	T0	T0	T0				
			ACCESSORIES									
			W = without accessory	W	W	W	W	W				
			M = magnetic core	M	M	M	M	M				
			ACCESSORIES									
			W = without accessory	W	W	W	W	W				
			B = mounting brackets	B	B	B	B	B				

* FormulaUFI.H2O, water removal media, for further details see "Hydro dry" chapter

** 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)



SPARE PARTS

FILTER HOUSING	FILTER ELEMENT	CLOGGING INDICATOR	ACCESSORY
 <div style="display: flex; gap: 5px;"> BOF </div>	 <div style="display: flex; gap: 5px;"> ERF </div>	 <div style="display: flex; gap: 10px;"> </div>	 <div style="border: 1px solid black; width: 15px; height: 15px; margin: 0 auto;"></div>

SPARE SEAL KIT

	NBR	FKM
FOF24	521.0101.2	521.0102.2
FOF34 - 36	521.0103.2	521.104.2
FOF41 - 44	521.0105.2	521.0106.2

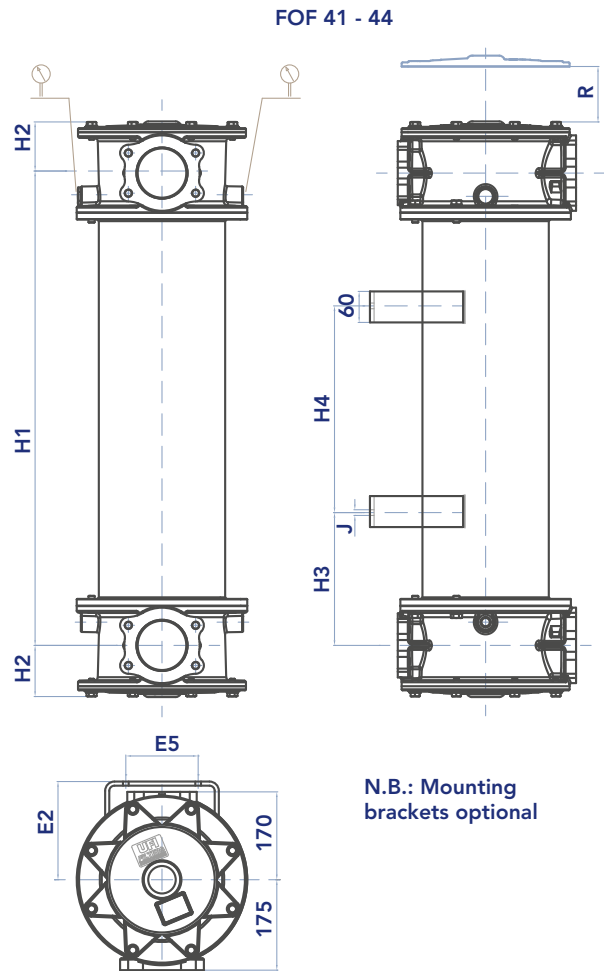
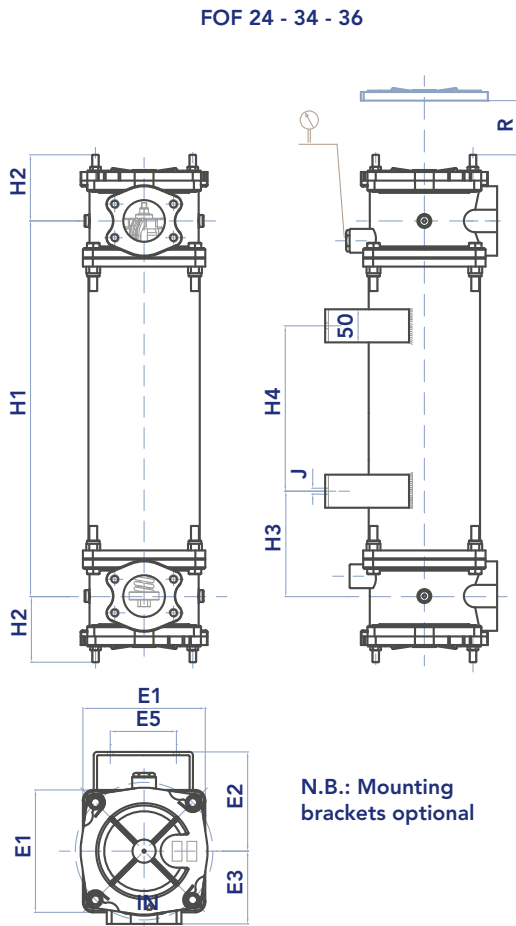
SPARE SPRING

FOF24	008.0269.1
FOF34 - 36	008.0275.1
FOF41 - 44	008.0283.1

FOF

OFF-LINE FILTERS

INSTALLATION DRAWING



FILTER HOUSING

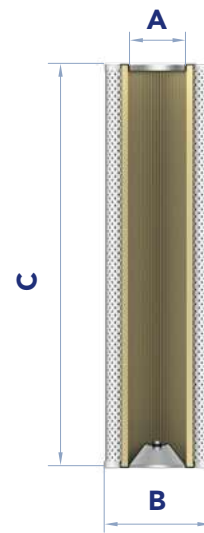
	PORT SIZE	E1	E2	E3	E5	H1	H2	H3	H4	J	R	kg
FOF24	1" 1/2	150	132	90	70	513	93	130	250	9	580	18,0
FOF34	2" - 2" 1/2	185	150	110	100	568	82	135	250	9	620	22,0
FOF36	2" - 2" 1/2	185	150	110	100	770	82	165	250	9	820	27,9
FOF41	3" - 4"	-	190	-	140	420	99	160	100	11	600	38,4
FOF44	3" - 4"	-	190	-	140	1180	99	340	500	11	1360	66,4



FILTER ELEMENT

	A	B	C	Kg	AREA (cm ²)			
					Media F+	Media CC	Media ME	Media WR
ERF24	72	106	465	1,50	9.700	11.800	3.670	6.749
ERF34	92	126	480	2,20	12.800	15.400	5.250	8.682
ERF36	92	126	680	3,00	18.200	19.500	7.700	12.330
ERF41	157	203	330	3,90	17.900	22.100	6.400	13.520
ERF44	157	203	1090	13,00	60.000	74.000	21.800	22.422

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.



MAINTENANCE

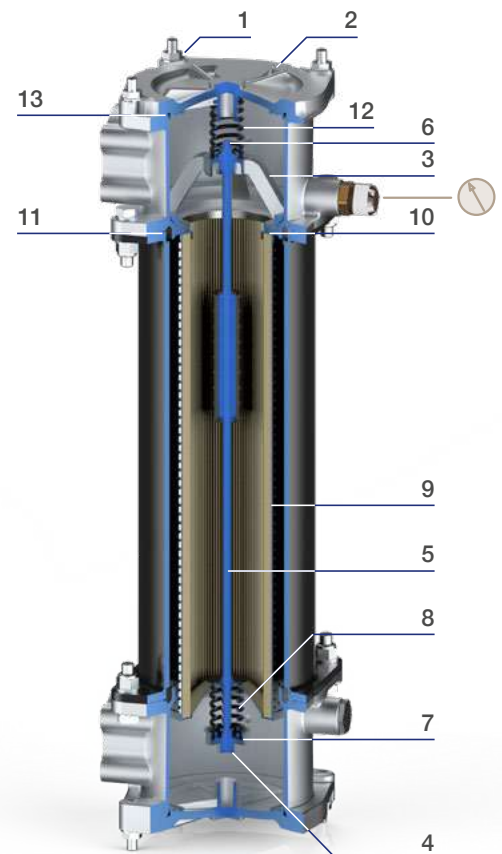
- 1) Stop the system and verify there is no pressure in the filter.
- 2) Loosen the nuts (1) on the cover (2). N.B. it is not necessary to disassemble the nuts, use the slots on the cover.
- 3) Turn the cover (2) clockwise and remove it.
- 4) Extract the filter element using the handle (3).
- 5) At the 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 (3) using the handle.
- 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 authorized Companies.
- 7) Verify the filter element part number on the filter label or in the ordering and option chart. Use only original spare parts.
- 8) Check the correct positioning and the condition of the O-ring (10) between the handle and the element. Clean and lubricate with oil. If damaged, check the seal kit part number in the catalogue or contact the customer care service.
- 9) Insert the clean element (9) on the tie-rod (5) handling with care.
- 10) Assembly the spring (8), the spring holder (7) and screw the nut (4) on the tie-rod (5) until it stops.
- 11) 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.
- 12) Replace the filter element assembly (with the handle) into the housing with the upper spring (12).
- 13) Check the correct positioning and the condition of the O-ring gasket (13) of the cover (2) and lubricate with oil. If damaged, verify the seal kit part number in the catalogue or contact the customer care service.
- 14) Position the cover (2) and tighten the nuts (1) until it stops.

Accessories:

Clogging indicator.

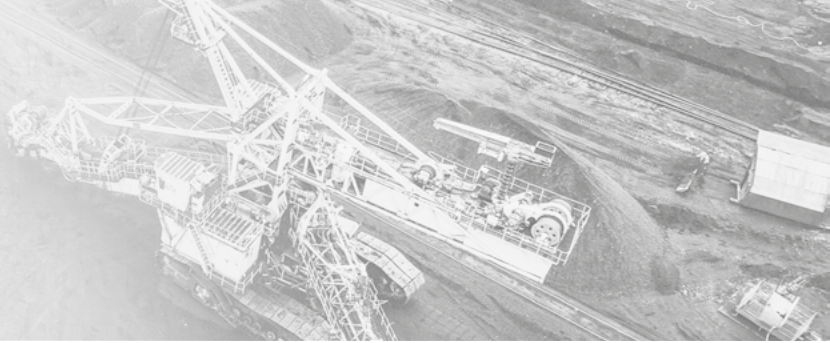
If damaged, unscrew and replace it (check the part number in the ordering and option chart).

Apply a thread-sealing and screw until tight. N.B. An overtightening can damage the thread.



FOF

OFF-LINE FILTERS

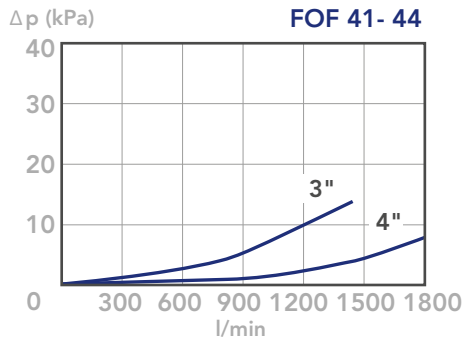
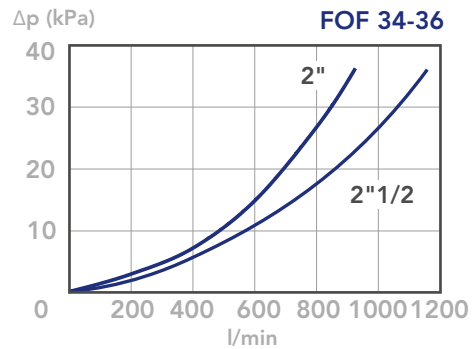
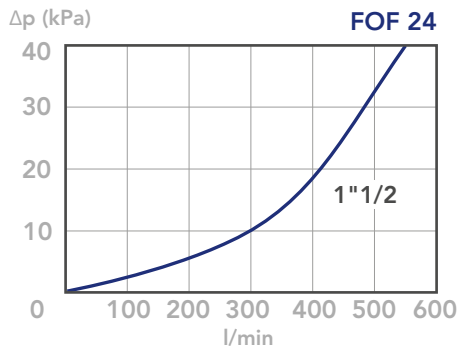


PRESSURE DROP CURVES (ΔP)

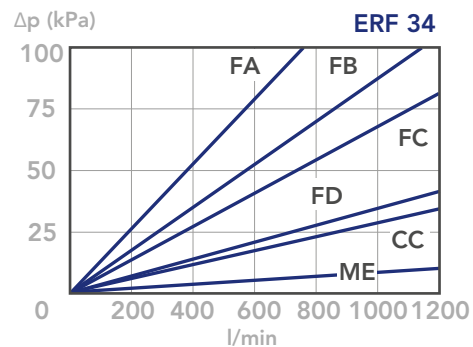
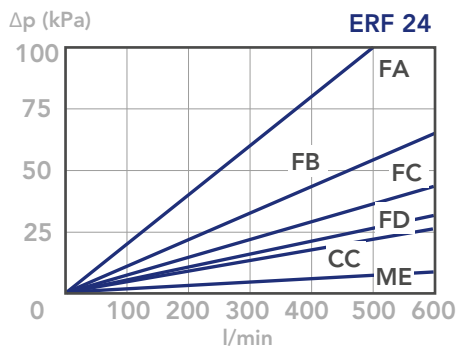
The “Assembly Pressure Drop (Δp)” is obtained by adding the pressure drop values of the Filter Housing and of the Clean Filter Element corresponding to the considered Flow Rate and it must

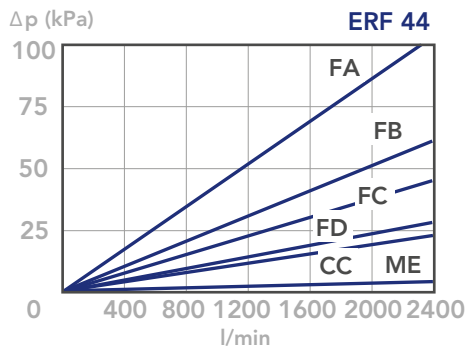
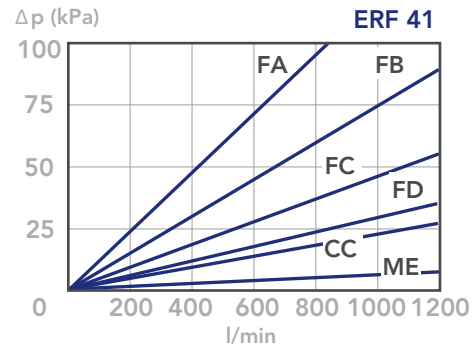
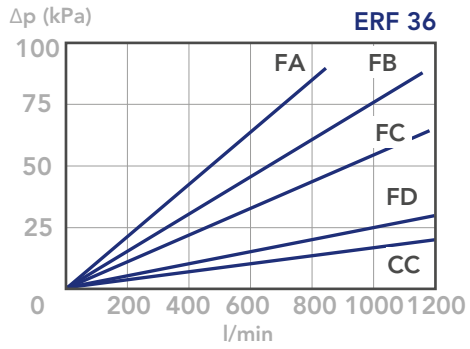
be lower than 50 kPa (0,5 bar) and should never exceed 1/3 of the bypass valve setting.

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



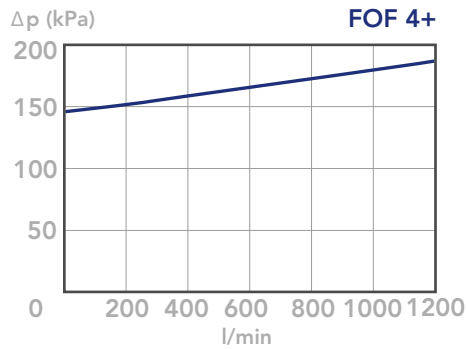
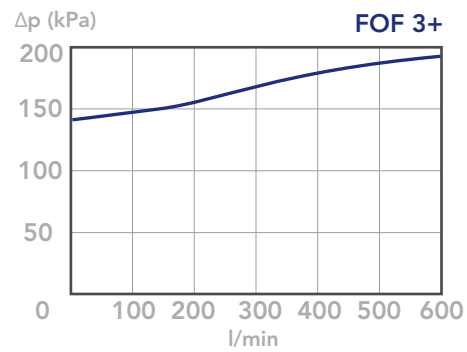
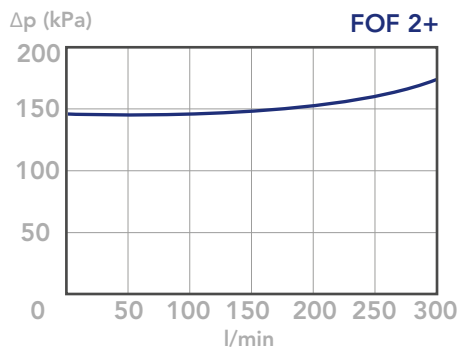
CLEAN FILTER ELEMENT PRESSURE DROP WITH F+, CC AND ME MEDIA
(depending both on the internal diameter of the element and on the filter media)





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 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.



HYDRO DRY

OFF-LINE FILTERS

WATER REMOVAL ELEMENTS

The hydro-dry filter elements remove up to 80% of the free water present in the oil.

The hydro-dry elements use the FormulaUFI.H2O filter media, working by absorption and ensuring a high water retention capacity.

To get the maximum water removal efficiency the hydro-dry elements must be used at constant flow rate and low and constant pressure, i.e. the ideal use is in a off-line filter, a low pressure filter, as the FMA series, or in a filtration trolley.

The hydro-dry elements remove also the solid contamination ($\beta_{21(c)} > 1.000$), but we recommend to remove the main part of solid contamination upstream, using a dedicated return-line filter. The hydro-dry elements are available in standard dimensions, to fit standard filter housings.

A clogging indicator set at 130 kPa (1,3 bar) on the filter housing is recommended for proper replacement of the clogged element.



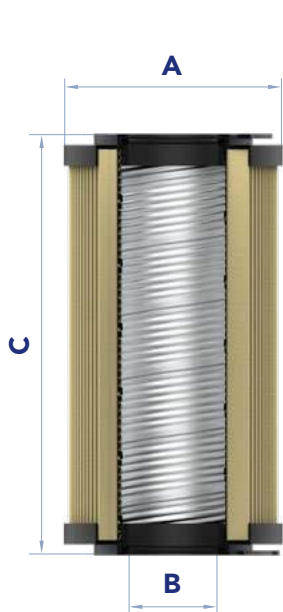
HYDRO DRY

OFF-LINE FILTERS



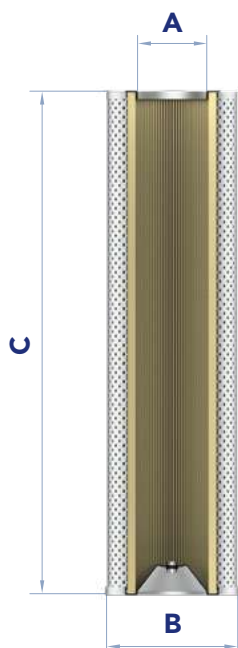
HYDRO-DRY ELEMENTS ERD SERIES

Fit the FRD series
filter housings.



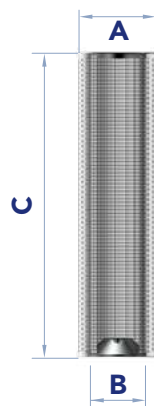
HYDRO-DRY ELEMENTS ERF SERIES

Fit the FOF series filter housings
and the UOW filtration unit



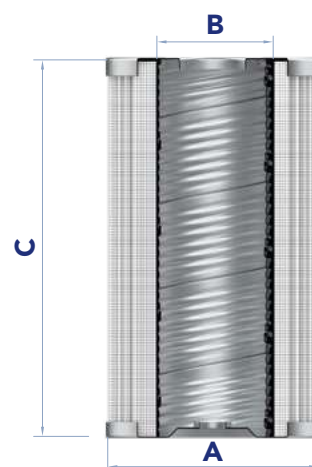
HYDRO-DRY ELEMENTS IRF SERIES

Fit the UOW filtration unit
Green Version



HYDRO-DRY ELEMENTS EMA SERIES

Fit the FMA series
filter housings



FILTER ELEMENT

	H2O retention capacity (ml)		Recommended max flow rate (l/min)	A	B	C	KG	AREA (cm ²) Media M+
	with oil 30 cSt	with oil 98 cSt						
EMA11NWR	50	34	6	70	29,5	88	0,21	669
EMA21NWR	78	52	8	70	29,5	134	0,23	1.036
EMA22NWR	160	106	15	95	41	175	0,50	2.112
EMA31NWR	239	159	20	140	65,5	145	0,73	3.181
EMA32NWR	343	229	25	140	65,5	205	0,92	4.574
ERD31NWR	60	45	8	70	34	130	0,25	1.006
ERD41NWR	240	170	20	99	51	211	0,70	3.801
ERD51NWR	500	350	35	130	74	251	1,50	7.493
ERD61NWR	1000	750	90	130	74/85	500	2,00	13.634
ERF24NWR	500	350	50	72	106	465	1,50	6.749
ERF34NWR	650	450	70	92	126	480	2,20	8.682
IRF34NWR	550	400	60	90	120,8	480	0,75	7.567
ERF36NWR	900	600	85	92	126	680	2,60	12.330
ERF41NWR	1000	700	90	157	203	330	3,95	13.520
ERF44NWR	1400	900	120	157	203	1090	6,63	22.420



UOW

OFF-LINE FILTERS

DESCRIPTION

Portable filling and filtration unit with green element
Inlet and Outlet
flexible hose, 2 m long with rigid end 0,5 m long
“Y” type filter for pump protection
Gear pump 40 l/min with inbuilt
1 MPa (10 bar) relief valve
Electric motor
three phase 380V - 0,75 kW
1450 rpm - IP54
Double handle for easy
and safe transportation
Total weight 50 kg

FLOW RATE

Qmax 40 l/min

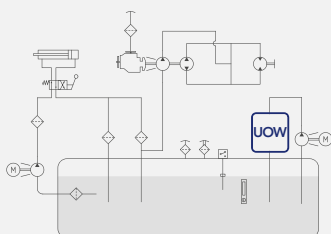
HOW IT WORKS

The mobile filtration unit is used for cleaning the fluid off line, for the transfer, filling and topping up of the oil tank and for any roll-off operation. The UOW mobile off-line filtration unit filters hydraulic fluid at low-pressure with the aid of a self-contained pump, motor and filter. The construction design is compact and user-friendly, and guarantees high filtration performances and long life filter element. The oil returning to the tank-reservoir from the return line is filtered by the UOW unit, reducing drastically the “clean-up time.” The filter can be fitted with a visual or electrical clogging indicator, also of differential type. The filter element is designed to meet the most demanding requirements of respect for the environment and reduction of polluting components of the hydraulic system. The filter element, having a wide filtration area and excellent efficiency features, is normally available with FormulaUFI. MICRON, from 5 to 21 $\mu\text{m(c)}$ (Bx > 1.000) and FormulaUFI.H2O. The mobile filtration unit includes a detailed use and maintenance instruction manual, that is available on our website in the Download section.

Filter element and clogging indicator must be ordered separately



HYDRAULIC DIAGRAM



Is this datasheet the latest release? Please check on our website

UOW

OFF-LINE FILTERS



ORDERING AND OPTION CHART

U	O	W	WHEELED OIL FILTRATION UNIT
0	4	0	NOMINAL FLOW RATE
			040 = 40 l/min
			ELECTRICAL MOTOR TYPE
			T = three phases (standard)
			M = single phase (optional)
0	0	7 5	NOMINAL POWER
			0075 = 0,75 kW
A	3		VERSION
			A3 = standard version
X	X		ACCESSORIES
			XX = without accessories

Filter element and clogging indicator must be ordered separately
Please refer to the following ordering and option charts

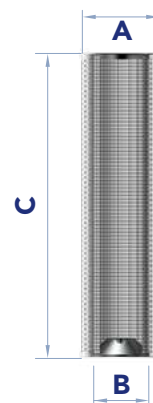
I	R	F	CORELESS FILTER ELEMENT
3	4		SIZE & LENGTH
		N	SEALS
			N = NBR Nitrile
			FormulaUFI MEDIA
			FA = FormulaUFI.MICRON 5 $\mu\text{m}_{(c)}$ $\beta > 1.000$
			FB = FormulaUFI.MICRON 7 $\mu\text{m}_{(c)}$ $\beta > 1.000$
			FC = FormulaUFI.MICRON 12 $\mu\text{m}_{(c)}$ $\beta > 1.000$
			FD = FormulaUFI.MICRON 21 $\mu\text{m}_{(c)}$ $\beta > 1.000$
			WR = FormulaUFI.H ₂ O*
			CLOGGING INDICATOR
			5B = visual differential 130 kPa (1,3 bar)
			6B = electrical differential 130 kPa (1,3 bar)
			7B = indicator 6E with LED
			T0 = elect. diff. 130 kPa (1,3 bar) with thermostat 30°C

* Water removal media, see "Hydro dry" chapter.



FILTER ELEMENT

	AREA (cm ²)					
	A	B	C	Kg	Media F+	Media WR
IRF34	90	120,8	480	0,75	10.810	7.567



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