# FPO-HMF
## PRESSURE FILTERS

### MATERIALS

Head: Aluminium alloy
Spin-on housing: Steel
Bypass valve: Polyammide
Seals: NBR Nitrile
(FKM - on request fluoroelastomer)
Indicator housing: Brass

### PRESSURE (ISO 10771-1)

Max working: 3,5 MPa (35 bar)
Collapse, differential for the filter element (ISO 2941):
1 MPa (10 bar)

### BYPASS VALVE

Setting:
170 kPa (1,7 bar) ± 10%
350 kPa (3,5 bar) ± 10%

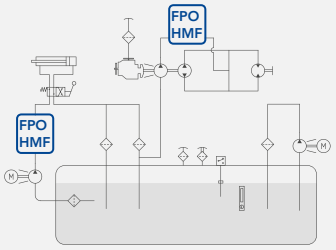
### WORKING TEMPERATURE

From -25° to +110° C

### COMPATIBILITY (ISO 2943)

Full with fluids: HH-HL-HM-HR-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.

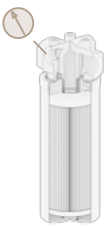
# FPO
## PRESSURE FILTERS

## ORDERING AND OPTION CHART

| F | P | O | COMPLETE FILTER FAMILY | | | | | | | FILTER ELEMENT FAMILY | E | P | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SIZE & LENGTH | 11 | 12 | 13 | 14 | 21 | 22 | SIZE & LENGTH | | | |
| | | | PORT TYPE | | | | | | | | | | |
| | | | B = BSP thread | B | B | B | B | - | - | | | | |
| | | | N = NPT thread | N | N | N | N | - | - | | | | |
| | | | PORT SIZE | | | | | | | | | | |
| | | | 06 = 3/4" | 06 | 06 | 06 | 06 | - | - | | | | |
| | | | 08 = 1" | 08 | 08 | 08 | 08 | - | - | | | | |
| | | | BYPASS VALVE | | | | | | | | | | |
| | | | W = without | W | W | W | W | - | - | | | | |
| | | | B = 170 kPa (1,7 bar) | B | B | B | B | - | - | | | | |
| | | | D = 350 kPa (3,5 bar) | D | D | D | D | - | - | | | | |
| | | | SEALS | | | | | | | SEALS | | | |
| | | | N = NBR Nitrile | N | N | N | N | N | N | | | | |
| | | | F = FKM Fluoroelastomer | F | F | F | F | F | F | | | | |
| | | | FILTER MEDIA* | | | | | | | FILTER MEDIA* | | | |
| | | | FA = fiber 5 µm(c) β>1.000 | FA | FA | FA | FA | FA | FA | | | | |
| | | | FB = fiber 7 µm(c) β>1.000 | FB | FB | FB | FB | FB | FB | | | | |
| | | | FC = fiber 12 µm(c) β>1.000 | FC | FC | FC | FC | FC | FC | | | | |
| | | | FS = fiber 16 µm(c) β>1.000 | FS | FS | FS | FS | FS | FS | | | | |
| | | | FD = fiber 21 µm(c) β>1.000 | FD | FD | FD | FD | FD | FD | | | | |
| | | | CLOGGING INDICATOR | | | | | | | | | | |
| | | | 06 = port, plugged | 06 | 06 | 06 | 06 | - | - | | | | |
| | | | 50 = visual differential 130kPa (1,3bar) | 50 | 50 | 50 | 50 | - | - | | | | |
| | | | 70 = electrical differential 130kPa (1,3bar) | 70 | 70 | 70 | 70 | - | - | | | | |
| | | | 56 = visual differential 250kPa (2,5bar) | 56 | 56 | 56 | 56 | - | - | | | | |
| | | | 76 = electrical differential 250kPa (2,5bar) | 76 | 76 | 76 | 76 | - | - | | | | |
| X | X | | ACCESSORIES | | | | | | | | | | |
| | | | XX = no accessory available | XX | XX | XX | XX | - | - | | | | |

* Other filter media option available on request

## SPARE PARTS ELEMENTS

| FILTER HOUSING | FILTER ELEMENT | CLOGGING INDICATOR |
|---|---|---|
|  |  |  |
| B P O | E P O | |

# HMF
## PRESSURE FILTERS

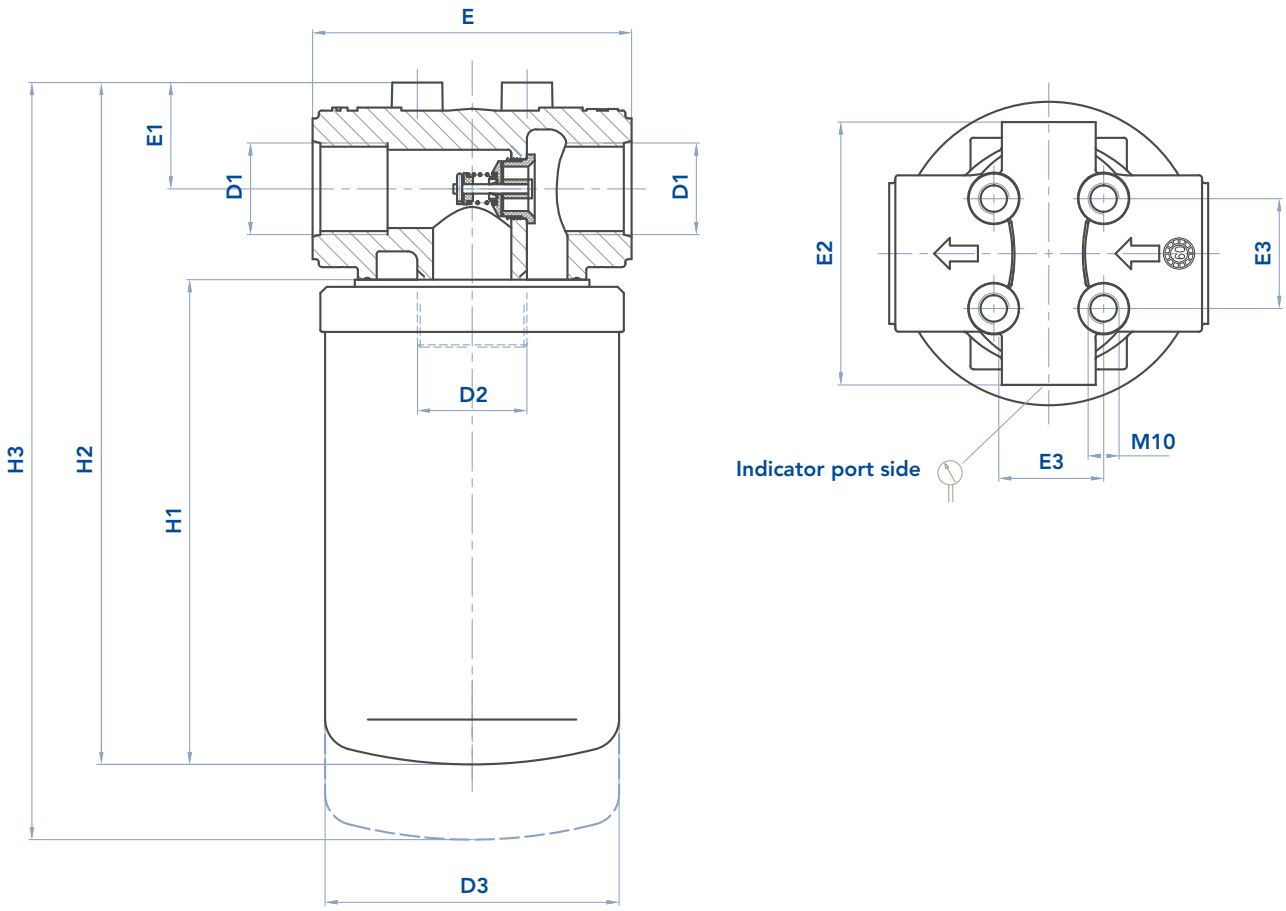
## ORDERING AND OPTION CHART

| H | M | F | COMPLETE FILTER FAMILY | | | | | | | FILTER ELEMENT FAMILY | H | C | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SIZE & LENGTH | 151 | 152 | 153 | 154 | 301 | 302 | SIZE & LENGTH | | | |
| | | | FILTER MEDIA* | | | | | | | FILTER MEDIA* | | | |
| | | | FT = fiber 5 µm(c) β>1.000 | FT | FT | FT | FT | FT | FT | | | | |
| | | | FC = fiber 7 µm(c) β>1.000 | FC | FC | FC | FC | FC | FC | | | | |
| | | | FD = fiber 12 µm(c) β>1.000 | FD | FD | FD | FD | FD | FD | | | | |
| | | | FS = fiber 16 µm(c) β>1.000 | FS | FS | FS | FS | FS | FS | | | | |
| | | | FV = fiber 21 µm(c) β>1.000 | FV | FV | FV | FV | FV | FV | | | | |
| | | | SEALS | | | | | | | SEALS | | | |
| | | | 1 = NBR 1itrile | 1 | 1 | 1 | 1 | 1 | 1 | | | | |
| | | | 2 = FKM Fluoroelastomer | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| | | | BYPASS VALVE | | | | | | | | | | |
| | | | S = without | S | S | S | S | - | - | | | | |
| | | | B = 170 kPa (1,7 bar) | B | B | B | B | - | - | | | | |
| | | | D = 350 kPa (3,5 bar) | D | D | D | D | - | - | | | | |
| | | | PORT TYPE | | | | | | | | | | |
| | | | B = BSP thread | B | B | B | B | - | - | | | | |
| | | | N = NPT thread | N | N | N | N | - | - | | | | |
| | | | PORT SIZE | | | | | | | | | | |
| | | | 4 = 3/4" | 4 | 4 | 4 | 4 | - | - | | | | |
| | | | 5 = 1" | 5 | 5 | 5 | 5 | - | - | | | | |
| | | | CLOGGING INDICATOR | | | | | | | | | | |
| | | | 06 = port, plugged | 06 | 06 | 06 | 06 | - | - | | | | |
| | | | 50 = visual differential 130kPa (1,3bar) | 50 | 50 | 50 | 50 | - | - | | | | |
| | | | 70 = electrical differential 130kPa (1,3bar) | 70 | 70 | 70 | 70 | - | - | | | | |
| | | | 56 = visual differential 250kPa (2,5bar) | 56 | 56 | 56 | 56 | - | - | | | | |
| | | | 76 = electrical differential 250kPa (2,5bar) | 76 | 76 | 76 | 76 | - | - | | | | |
| X | X | | ACCESSORIES | | | | | | | | | | |
| | | | XX = no accessory available | XX | XX | XX | XX | - | - | | | | |

* Other filter media option available on request

# FPO-HMF
## PRESSURE FILTERS

## INSTALLATION DRAWING



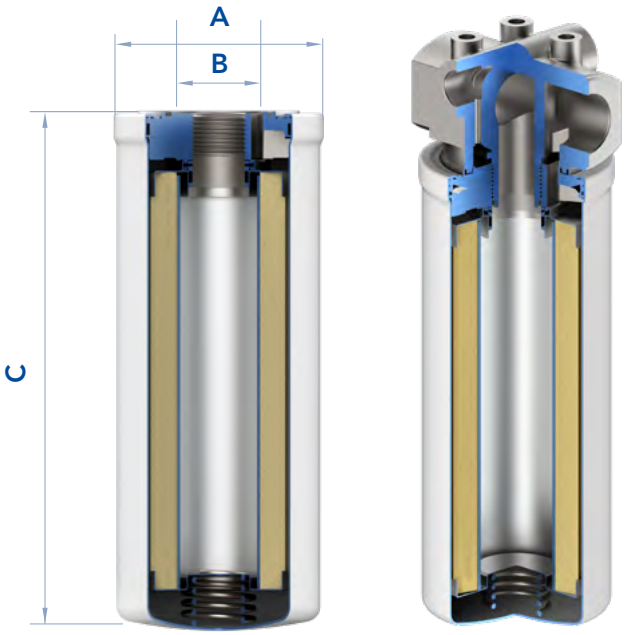

## FILTER HOUSING

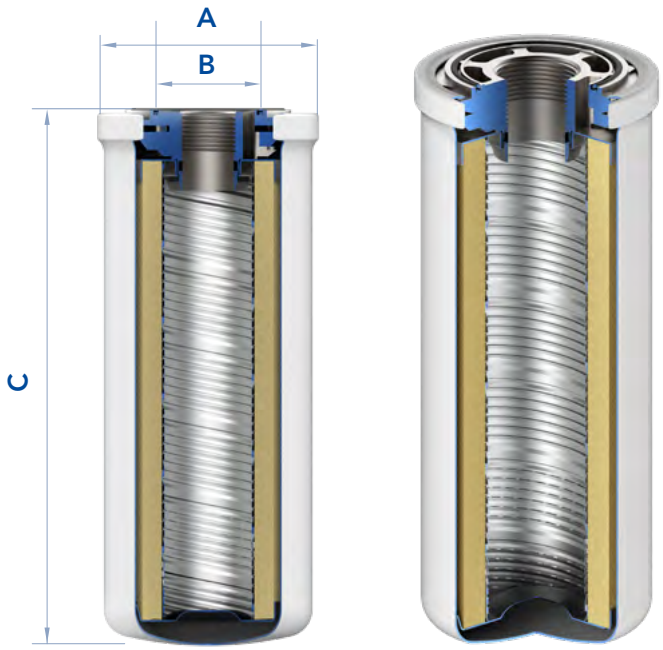
| | D1 | D2 | D3 | E | E1 | E2 | E3 | H1 | H2 | H3 | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FPO11<br>HMF151 | 3/4”BSP-3/4”NPT | 1”3/8-12UNF 2A | 94 | 102 | 36 | 84 | 35 | 155 | 219 | 243 | 1,6 |
| FPO12<br>HMF152 | 3/4”BSP-3/4”NPT | 1”3/8-12UNF 2A | 94 | 102 | 36 | 84 | 35 | 182 | 246 | 270 | 1,7 |
| FPO13<br>HMF153 | 3/4”BSP-3/4”NPT | 1”3/8-12UNF 2A | 94 | 102 | 36 | 84 | 35 | 228 | 292 | 316 | 1,9 |
| FPO14<br>HMF154 | 3/4”BSP-3/4”NPT | 1”3/8-12UNF 2A | 94 | 102 | 36 | 84 | 35 | 240 | 304 | 328 | 2,0 |

## MAINTENANCE

The best time to change your filter element is just before it reaches its maximum dirt-holding capacity. For this reason, we recommend monitoring 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 and make sure there is no pressure in the filter. Remove the dirty filter element. Replace it with an original UFI element, verifying the part number on the filter label or on the catalogue. Lubricate the spin-on gasket and the filter head threads, screw on the head until it stops and tighten by turning it 1/2 of a turn

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




## FILTER ELEMENT

| | A | B | C | Kg | AREA (cm²) Media F+ | AREA (cm²) Media C+ |
|---|---|---|---|---|---|---|
| EPO11 HCA151 | 94 | 1 3/8"-12 UN 2B | 155 | 0,9 | 1.860 | 2.130 |
| EPO12 HCA152 | 94 | 1 3/8"-12 UN 2B | 182 | 1,0 | 2.285 | 2.710 |
| EPO13 HCA153 | 94 | 1 3/8"-12 UN 2B | 228 | 1,2 | 3.110 | 3.570 |
| EPO14 HCA154 | 94 | 1 3/8"-12 UN 2B | 240 | 1,3 | 3.320 | 3.810 |
| EPO21 HCA301 | 117 | 1 3/4"-12 UN 2B | 294 | 2,3 | 5.060 | 6.480 |
| EPO22 HCA302 | 117 | 1 3/4"-12 UN 2B | 361 | 2,7 | 6.300 | 7.950 |

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.

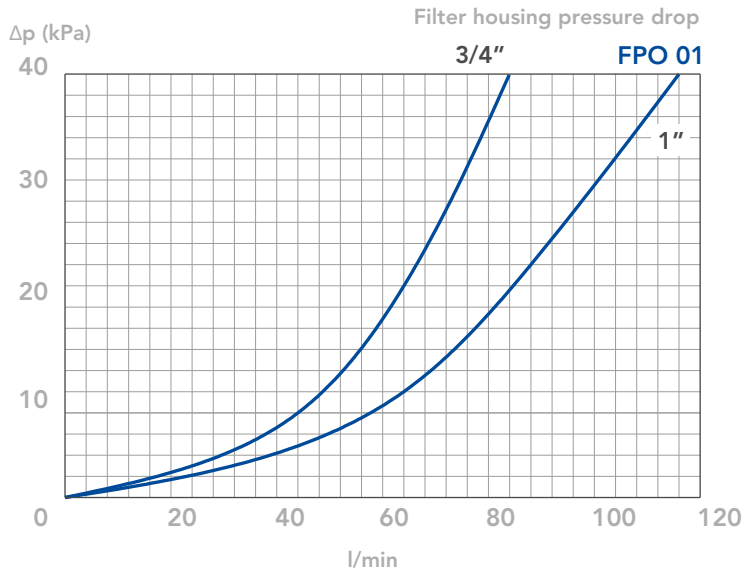
Verify that the Company you choose has the expertise and authorization to dispose this type of waste material.

# FPO-HMF
## PRESSURE FILTERS

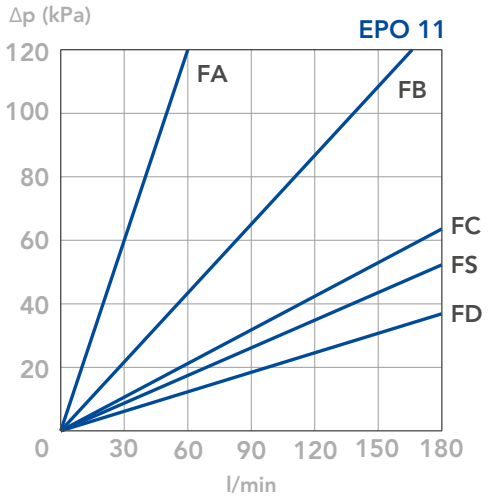
## PRESSURE DROP CURVES (ΔP)

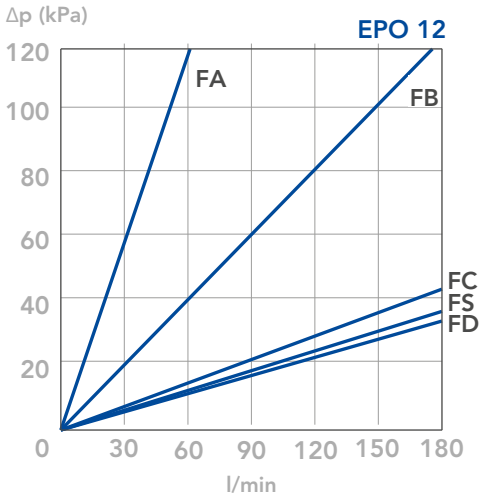
The “Assembly Pressure Drop (Δp)” is obtained by adding the pressure drop values of the Filter Housing and
of the Clean Filter Element corresponding to the considered Flow Rate and it must be lower than 120 kPa (1,2 bar) and should never exceed 1/3 of the bypass valve setting.

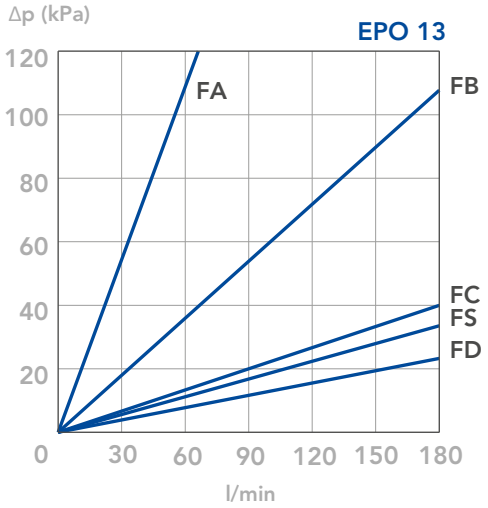
FILTER HOUSING PRESSURE DROP
(mainly depending on the port size)

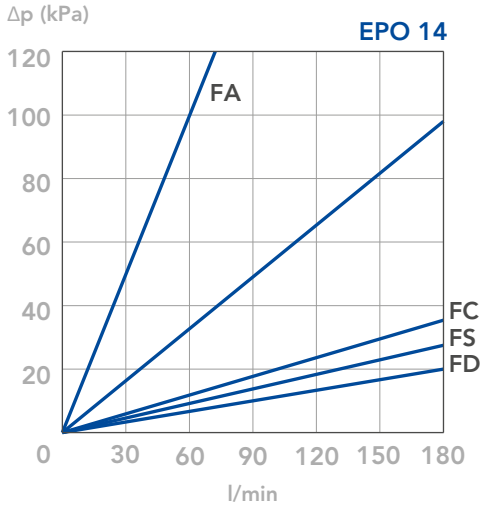



CLEAN FILTER ELEMENT PRESSURE DROP WITH F+ AND C+MEDIA
(depending both on the internal diameter of the element and on the filter media)



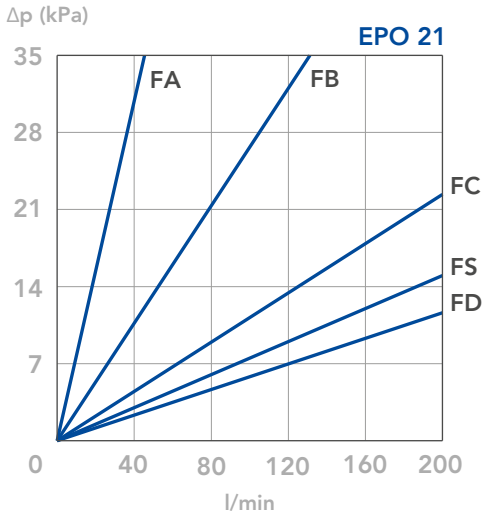



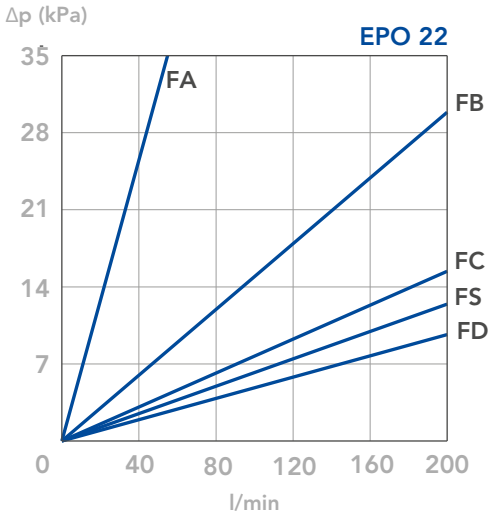



BYPASS VALVE PRESSURE DROP

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 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.