# FRA-RFM
## RETURN FILTERS

## MATERIALS

Head and cover : Aluminium alloy
Bowl :
Polyammide for FRA21-31-32-33-41
Zinc plated steel for FRA11-42-51-52- 53-5D
Bypass valve: Polyammide
Seals: NBR Nitrile
FKM Fluoroelastomer on request
Indicator housing: Brass

## PRESSURE

Max. working: 300 kPa (3 bar)
Collapse, differential for the filter element (ISO 2941): 300 kPa (3 bar)

## BYPASS VALVE

Setting: 170 kPa (1,7 bar) ± 10%

## WORKING TEMPERATURE

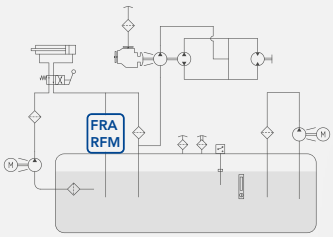
From -25° to +110° C

## 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.



# RFM
## RETURN FILTERS

## ORDERING AND OPTION CHART

| R | F | M | COMPLETE FILTER FAMILY | | | | | | | | | | | | | | | | | | | FILTER ELEMENT FAMILY | C | R | E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SIZE & LENGHT | 004 | 008 | 012 | 015 | 020 | 025 | 030 | 040 | 050 | 055 | 060 | 070 | 080 | 100 | 110 | 125 | 150 | 160 | | | | |
| | | | | 004 | 008 | 015 | 015 | 025 | 025 | 030 | 050 | 050 | 055 | 060 | 060 | 080 | 100 | 110 | 125 | 150 | 160 | SIZE & LENGHT | | | |
| | | | FILTER MEDIA | | | | | | | | | | | | | | | | | | | FILTER MEDIA | | | |
| | | | FT = fibreglass 5 µm(c) β>1.000 | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | FT | | | | |
| | | | FC = fibreglass 7 µm(c) β>1.000 | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | FC | | | | |
| | | | FD = fibreglass 12 µm(c) β>1.000 | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | FD | | | | |
| | | | FV = fibreglass 21 µm(c) β>1.000 | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | FV | | | | |
| | | | CD = impregnated cellulose 10 µm β>2 | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | CD | | | | |
| | | | CV = impregnated cellulose 25 µm β>2 | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | CV | | | | |
| | | | MS = wire mesh 60 µm | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | | | | |
| | | | SEALS | | | | | | | | | | | | | | | | | | | SEALS | | | |
| | | | 1 = NBR Nitrile | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | |
| | | | 2 = FKM Fluoroelastomer | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | |
| | | | BYPASS VALVE | | | | | | | | | | | | | | | | | | | | | | |
| | | | B = 170 kPa (1,7 bar) | X | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | | | | |
| | | | PORT TYPE | | | | | | | | | | | | | | | | | | | | | | |
| | | | B = BSP thread | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | B | | | | |
| | | | N = NPT thread | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | N | | | | |
| | | | S = SAE thread | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | | | | |
| | | | F = SAE flange 3000 psi | - | - | - | - | - | - | - | - | - | - | - | - | - | - | F | F | F | F | | | | |
| | | | PORT SIZE | | | | | | | | | | | | | | | | | | | | | | |
| | | | 2 = 3/8" | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| | | | 3 = 1/2" | - | 3 | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| | | | 4= 3/4" | - | - | - | 4 | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | |
| | | | 5 = 1" | - | - | - | - | - | 5 | 5 | 5 | - | - | - | - | - | - | - | - | - | - | | | | |
| | | | 6 = 1" 1/4 (F6 not available) | - | - | - | - | - | - | - | - | 6 | 6 | 6 | - | - | - | - | - | - | - | | | | |
| | | | 7 = 1" 1/2 | - | - | - | - | - | - | - | - | - | - | - | 7 | 7 | 7 | - | - | - | - | | | | |
| | | | 8 = 2" (F8 not available) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8 | 8 | 8 | 8 | | | | |
| | | | 9 = 2" 1/2 (F9 only) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 | 9 | 9 | 9 | | | | |
| | | | CLOGGING INDICATOR | | | | | | | | | | | | | | | | | | | | | | |
| | | | 01 = 1/8" port, plugged | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | | | | |
| | | | 30 = pressure gauge, rear connection | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | | | | |
| | | | 32 = pressure gauge, cottom connection | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | | | | |
| | | | P1 = SPDT pressure switch | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | P1 | | | | |
| | | | ACCESSORIES | | | | | | | | | | | | | | | | | | | | | | |
| | | | S = without | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | | | | |
| | | | T = with filling plug | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | | |
| X | | | ACCESSORIES | | | | | | | | | | | | | | | | | | | | | | |
| | | | X= no other accessory available | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | |

# FRA
## RETURN FILTERS



## SPARE PARTS ELEMENTS

| FILTER HOUSING | FILTER ELEMENT | CLOGGING INDICATOR | ACCESSORIES |
|---|---|---|---|
|  |  |  |  |
| B R A ☐ ☐ ☐ ☐ B ☐ ■ ■ ☐ ☐ ☐ X | E R A ☐ ☐ ☐ ☐ ☐ | ☐ ☐ | ☐ X |

## SPARE SEAL KIT

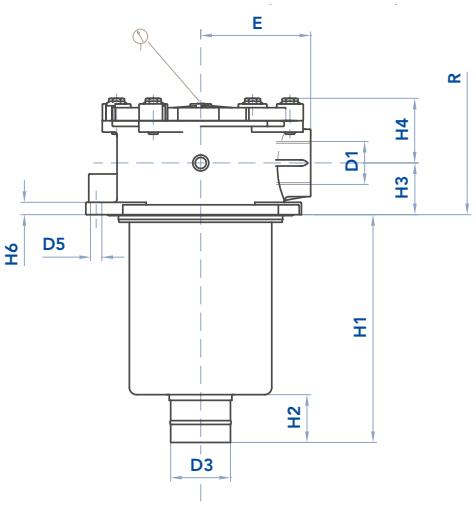
| | NBR | FKM |
|---|---|---|
| FRA11<br>RFM004 | 521.0032.2 | 521.0039.2 |
| FRA21<br>RFM008 | 521.0012.2 | 521.0040.2 |
| FRA31<br>RFM012-015 | 521.0013.2 | 521.0041.2 |
| FRA32<br>RFM020-025 | 521.0013.2 | 521.0041.2 |
| FRA33<br>RFM030 | 521.0013.2 | 521.0041.2 |
| FRA41<br>RFM040-050 | 521.0014.2 | 521.0043.2 |
| FRA42<br>RFM055 | 521.0014.2 | 521.0043.2 |
| FRA51<br>RFM060-070 | 521.0015.2 | 521.0044.2 |
| FRA5A<br>RFM080 | 521.0015.2 | 521.0044.2 |
| FRA52<br>RFM100 | 521.0015.2 | 521.0044.2 |
| FRA5B<br>RFM110 | 521.0015.2 | 521.0044.2 |
| FRA5C<br>RFM125 | 521.0015.2 | 521.0044.2 |
| FRA53<br>RFM150 | 521.0015.2 | 521.0044.2 |
| FRA5D<br>RFM160 | 521.0015.2 | 521.0044.2 |

## SPARE SPRING

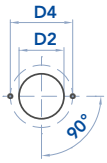
| | |
|---|---|
| FRA11<br>RFM004 | 008.0032.1 |
| FRA21<br>RFM008 | 008.0149.1 |
| FRA31<br>RFM012-015 | 008.0003.1 |
| FRA32<br>RFM020-025 | 008.0003.1 |
| FRA33<br>RFM030 | 008.0003.1 |
| FRA41<br>RFM040-050 | 008.0151.1 |
| FRA42<br>RFM055 | 008.0151.1 |
| FRA51<br>RFM060-070 | 008.0028.1 |
| FRA5A<br>RFM080 | 008.0028.1 |
| FRA52<br>RFM100 | 008.0028.1 |
| FRA5B<br>RFM110 | 008.0028.1 |
| FRA5C<br>RFM125 | 008.0028.1 |
| FRA53<br>RFM150 | 008.0028.1 |
| FRA5D<br>RFM160 | 008.0028.1 |

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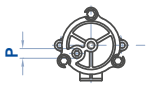
## INSTALLATION DRAWING



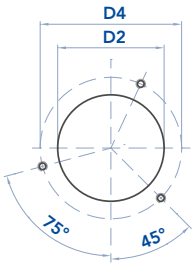

FRA 11-21-31-32-33
RFM 004-008-012-015-020-025-030



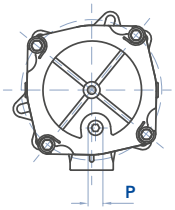

Tank mounting pattern



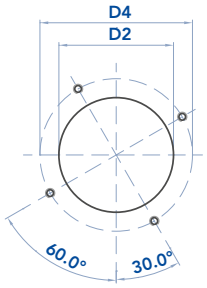

FRA 41-42
RFM 040-050--055



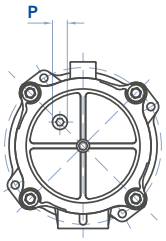

Tank mounting pattern




FRA 51-5A-52-5B-5C-53-5D
RFM 060-070-080-100-110-125-150-160




Tank mounting pattern




## FILTER HOUSING

| | D1 | min D2 | max D2 | D3 | D4 | D5 | E | H1 | H2 | H3 | H4 | H6 | P | R | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FRA11 RFM004 | 3/8" | 50 | 50 | 12 | 80 | 6,5 | 40 | 59 | 16 | 12 | 33 | 9 | 1/8" | 90 | 0,30 |
| FRA21 RFM008 | 1/2" | 67 | 68 | 24 | 90 | 6,5 | 50 | 80 | 20 | 22 | 33 | 9 | 3/8" | 120 | 0,45 |
| FRA31 RFM012-015 | 1/2"-3/4" | 89 | 90 | 28 | 115 | 9 | 67 | 102 | 25 | 28 | 47 | 10 | 3/8" | 150 | 0,80 |
| FRA32 RFM020-025 | 3/4" - 1" | 89 | 90 | 28 | 115 | 9 | 67 | 150 | 25 | 28 | 47 | 10 | 3/8" | 190 | 0,95 |
| FRA33 RFM030 | 3/4" - 1" | 89 | 90 | 40 | 115 | 9 | 67 | 234 | 30 | 28 | 47 | 10 | 3/8" | 270 | 1,10 |
| FRA41 RFM040-050 | 1" - 1"1/4 - 1"1/2 | 126 | 131 | 40 | 175 | 10,5 | 95 | 248 | 50 | 35 | 56 | 13 | 1/2" | 289 | 2,10 |
| FRA42 RFM055 | 1" - 1"1/4 - 1"1/2 | 126 | 131 | 40 | 175 | 10,5 | 95 | 265 | 30 | 35 | 56 | 13 | 1/2" | 306 | 2,30 |
| FRA51 RFM060-070 | 1"1/4 - 1"1/2 - 2" - 2"1/2 | 174 | 180 | 50 | 220 | 10,5 | 115 | 178 | 50 | 55 | 69 | 13 | 1/2" | 250 | 3,10 |
| FRA5A RFM080 | 1"1/4 - 1"1/2 - 2" - 2"1/2 | 174 | 180 | 50 | 220 | 10,5 | 115 | 240 | 50 | 55 | 69 | 13 | 1/2" | 315 | 3,50 |
| FRA52 RFM100 | 1"1/4 - 1"1/2 - 2" - 2"1/2 | 174 | 180 | 63,5 | 220 | 10,5 | 115 | 240 | 50 | 55 | 69 | 13 | 1/2" | 315 | 3,60 |
| FRA5B RFM110 | 2" - 2"1/2 | 174 | 180 | 63,5 | 220 | 10,5 | 115 | 240 | 50 | 55 | 69 | 13 | 1/2" | 315 | 3,65 |
| FRA5C RFM125 | 2" - 2"1/2 | 174 | 180 | 63,5 | 220 | 10,5 | 115 | 240 | 50 | 55 | 69 | 13 | 1/2" | 250 | 3,65 |
| FRA53 RFM150 | 2" - 2"1/2 | 174 | 180 | 63,5 | 220 | 10,5 | 115 | 285 | 50 | 55 | 69 | 13 | 1/2" | 355 | 4,10 |
| FRA5D RFM160 | 2" - 2"1/2 | 174 | 180 | 63,5 | 220 | 10,5 | 115 | 300 | 50 | 55 | 69 | 13 | 1/2" | 370 | 4,30 |