

RETURN FILTER - MA

Pressure (ISO 10771-1:2002)

Max working: 0,7 MPa (7 bar)
 Test: 1,5 MPa (15 bar)
 Bursting: 2,5 MPa (25 bar)
 Collapse, differential for the filter element (ISO 2941): 300 kPa (3 bar)

Working Temperature

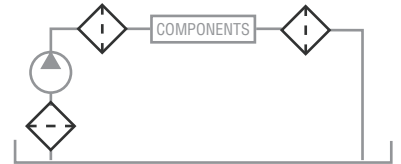
From -25° to +110° C

Compatibility (ISO 2943:1999)

Full with fluids: HH-HL-HM-HV-HTG (according to ISO 6743/4)
 For fluids different than the above mentioned, please contact our Sales Department.

Materials

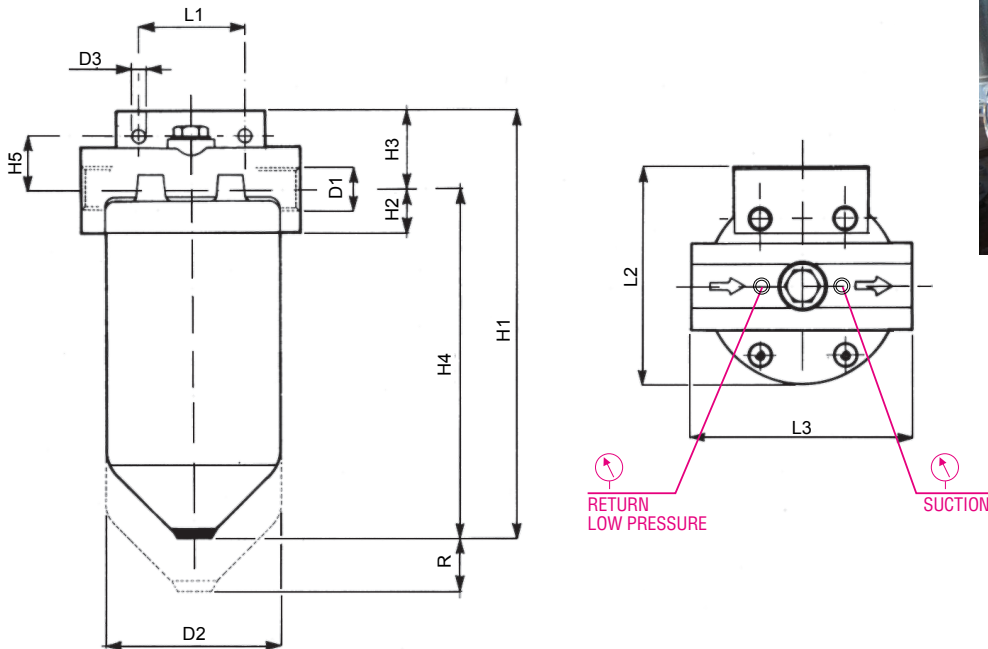
Head: Aluminium alloy
 Bowl: Cold formed steel
 Seals: NBR Nitrile FKM Fluoroelastomer (on request)
 Indicator housing: Brass



Application Example



Prices on Request

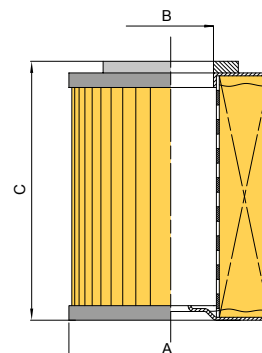


Dimensions (mm) - FILTER HOUSING

| | D1 | H1 | H2 | H3 | L1 | D2 | H4 | L2 | D3 | L3 | H5 | R | kg |
|-------|-------------|-----|----|----|-----|-----|-----|-----|------|-----|----|----|-----|
| FMA11 | 3/8" - 1/2" | 170 | 22 | 38 | 50 | 81 | 132 | 95 | 6.5 | 105 | 26 | 20 | 1.0 |
| FMA21 | 3/4" | 245 | 37 | 39 | 100 | 114 | 206 | 135 | 8.5 | 140 | 24 | 25 | 2.0 |
| FMA22 | 1" | 285 | 37 | 39 | 100 | 114 | 246 | 135 | 8.5 | 140 | 24 | 25 | 2.5 |
| FMA31 | 1" 1/4 | 290 | 40 | 50 | 150 | 155 | 240 | 185 | 10.5 | 178 | 28 | 25 | 6.0 |
| FMA32 | 1" 1/2 | 345 | 40 | 50 | 150 | 155 | 295 | 185 | 10.5 | 178 | 28 | 25 | 6.5 |

Dimensions (mm) - FILTER ELEMENT

| | A | B | C | Area (cm ²) media M+ | Area (cm ²) media C+ |
|-------|-----|------|-----|----------------------------------|----------------------------------|
| EMA11 | 70 | 29.5 | 88 | 480 | 1180 |
| EMA21 | 70 | 29.5 | 134 | 750 | 1800 |
| EMA22 | 95 | 41 | 175 | 1650 | 2400 |
| EMA31 | 140 | 65.5 | 145 | 1740 | 4440 |
| EMA32 | 140 | 65.5 | 205 | 2490 | 6390 |



RETURN FILTER - MA

Ordering Codes - Filter

| | | | | | | |
|--------------------------|---------------------|---|---|---|---|---|
| <input type="checkbox"/> | Type | | | | | |
| | F = Filter Complete | F | F | F | F | F |
| | B = Filter Housing | B | B | B | B | B |

| | | | | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Family, Nominal Size, Length | 11 | 21 | 22 | 31 | 32 |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|

| | |
|--------------------------|---------------------------------|
| <input type="checkbox"/> | Port Type B = BSP thread |
|--------------------------|---------------------------------|

| | | | | | | | |
|--------------------------|--------------------------|-----------------------------|----|----|----|----|----|
| <input type="checkbox"/> | <input type="checkbox"/> | Port Size (quote D1) | | | | | |
| | | 03 = 3/8" | 03 | - | - | - | |
| | | 04 = 1/2" | 04 | - | - | - | |
| | | 06 = 3/4" | - | 06 | - | - | |
| | | 08 = 1" | - | - | 08 | - | |
| | | 10 = 1 1/4" | - | - | - | 10 | |
| | | 12 = 1 1/2" | - | - | - | - | 12 |

| | |
|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | Bypass Valve - not available |
|-------------------------------------|-------------------------------------|

| | | | | | | |
|--------------------------|-------------------------|---|---|---|---|---|
| <input type="checkbox"/> | Seals | | | | | |
| | N = NBR Nitrile | N | N | N | N | N |
| | F = FKM Fluoroelastomer | F | F | F | F | F |

| | | | | | | |
|--------------------------|--------------------------|-------------------------|----|----|----|----|
| <input type="checkbox"/> | <input type="checkbox"/> | Filter Media | | | | |
| | | MD = wire mesh 25µm | MD | MD | MD | MD |
| | | ME = wire mesh 60µm | ME | ME | ME | ME |
| | | MF = wire mesh 90µm | MF | MF | MF | MF |
| | | MG = wire mesh 250µm | MG | MG | MG | MG |
| | | CC = Cellulose 10µm β>2 | CC | CC | CC | CC |
| | | CD = Cellulose 25µm β>2 | CD | CD | CD | CD |
| | | WR = water removal (*) | WR | WR | WR | WR |

(*) water removal media - see Hydro-dry brochure

| | | | | | | |
|--------------------------|--------------------------|------------------------------------|----|----|----|----|
| <input type="checkbox"/> | <input type="checkbox"/> | Clogging Indicator | | | | |
| | | 0E = nr. 2x1/8" port, plugged | 0E | 0E | 0E | 0E |
| | | 11 = vacuum gauge, rear connection | 11 | 11 | 11 | 11 |
| | | 91 = SPDT, vacuum switch | 91 | 91 | 91 | 91 |
| | | 33 = pressure gauge | 33 | 33 | 33 | 33 |
| | | P1 = SPDT, pressure switch | P1 | P1 | P1 | P1 |

Suction

Return and low pressure

| | | | | | | |
|--------------------------|---------------------------------|---|---|---|---|---|
| <input type="checkbox"/> | Accessories | | | | | |
| | W = No indicator port | W | W | W | W | W |
| | B = Indicator port - right side | B | B | B | B | B |

| | | | | | | |
|-------------------------------------|--|---|---|---|---|----|
| <input checked="" type="checkbox"/> | Accessories X = no access available | X | X | X | X | XX |
|-------------------------------------|--|---|---|---|---|----|

RETURN FILTER - MA



Ordering Codes - Element

| | | | | | | | | | |
|---|---|------------------------------|--|--|----|----|----|----|----|
| E | | Element | | | | | | | |
| M | A | Family, Nominal Size, Length | | | 11 | 21 | 22 | 31 | 32 |
| | | Seals | | | | | | | |
| | | N = NBR Nitrile | | | N | N | N | N | N |
| | | F = FKM Fluoroelastomer | | | F | F | F | F | F |
| | | Filter Media | | | | | | | |
| | | MD = wire mesh 25µm | | | MD | MD | MD | MD | MD |
| | | ME = wire mesh 60µm | | | ME | ME | ME | ME | ME |
| | | MF = wire mesh 90µm | | | MF | MF | MF | MF | MF |
| | | MG = wire mesh 250µm | | | MG | MG | MG | MG | MG |
| | | CC = Cellulose 10µm β>2 | | | CC | CC | CC | CC | CC |
| | | CD = Cellulose 25µm β>2 | | | CD | CD | CD | CD | CD |
| | | WR = water removal (*) | | | WR | WR | WR | WR | WR |

Recommended Flow Rates

| Type | Filter Media | l/min at Δp | |
|----------|--------------|-----------------------|-------------------------------------|
| | | 0.03 bar suction line | 0.5 bar return or low pressure line |
| FMA11B03 | MD | 7 | 58 |
| | ME | 8 | 62 |
| | MF | 8 | 72 |
| | MG | 8 | 72 |
| | CC | 4 | 45 |
| | CD | 6 | 55 |
| FMA11B04 | MD | 11 | 75 |
| | ME | 11 | 79 |
| | MF | 12 | 95 |
| | MG | 12 | 95 |
| | CC | 8 | 58 |
| | CD | 10 | 72 |
| FMA21 | MD | 21 | 177 |
| | ME | 23 | 185 |
| | MF | 34 | 197 |
| | MG | 34 | 197 |
| | CC | 17 | 132 |
| | CD | 19 | 148 |

| Type | Filter Media | l/min at Δp | |
|-------|--------------|-----------------------|-------------------------------------|
| | | 0.03 bar suction line | 0.5 bar return or low pressure line |
| FMA22 | MD | 35 | 349 |
| | ME | 41 | 265 |
| | MF | 45 | 303 |
| | MG | 45 | 303 |
| | CC | 27 | 185 |
| | CD | 30 | 220 |
| FMA31 | MD | 91 | 535 |
| | ME | 106 | 556 |
| | MF | 136 | 590 |
| | MG | 136 | 590 |
| | CC | 45 | 386 |
| | CD | 61 | 428 |
| FMA32 | MD | 207 | 638 |
| | ME | 235 | 749 |
| | MF | 329 | 783 |
| | MG | 329 | 783 |
| | CC | 87 | 503 |
| | CD | 115 | 628 |

