

FMM 050 FHA 051

Maximum pressure
420 bar
Flow rate to
152 l/min

Maximum pressure
560 bar
Flow rate to
140 l/min



Technical data

FMM 050

Filter housing (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel

FHA 051

Filter housing (Materials)

- Head: Steel (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel

FMM 050 - Pressure

- Working pressure: 420 bar (42 MPa)
- Test pressure: 630 bar (63 MPa)
- Burst pressure: 1260 bar (126 MPa)
- Pulse pressure fatigue test: 1.000.000 cycles with pressure from 0 to 420 bar (42 MPa)

FHA 051 - Pressure

- Working pressure: 560 bar (56 MPa)
- Test pressure: 840 bar (84 MPa)
- Burst pressure: 1680 bar (168 MPa)
- Pulse pressure fatigue test: 1.000.000 cycles with pressure from 0 to 560 bar (56 MPa)

Temperature

- From -25 °C to +110 °C

Bypass valve

- Opening pressure 6 bar ±10%
- Other opening pressures on request.

FMM - FHA Δp Elements type

- Microfibre filter elements series N: 20 bar
- Microfibre filter elements series S: 210 bar
- Wire mesh filter elements series N: 20 bar
- Fluid flow through the filter element from OUT to IN.

Seals

- Standard NBR series A
- Optional FPM series V

FMM FILTERS ARE PROVIDED FOR VERTICAL MOUNTING
FHA FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

Weights (kg)

| Length | 1 | 2 | 3 | 4 | 5 |
|----------|------|------|------|------|------|
| • FMM050 | 3,11 | 3,48 | 3,90 | 4,36 | 5,54 |
| • FHA051 | 3,28 | 3,65 | 4,06 | 4,54 | 5,74 |

Volumes (dm³)

| Length | 1 | 2 | 3 | 4 | 5 |
|----------|------|------|------|------|------|
| • FMM050 | 0,34 | 0,48 | 0,63 | 0,81 | 1,23 |
| • FHA051 | 0,33 | 0,47 | 0,62 | 0,79 | 1,23 |

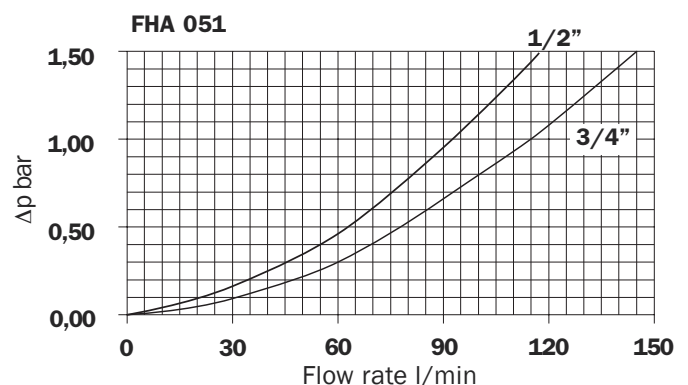
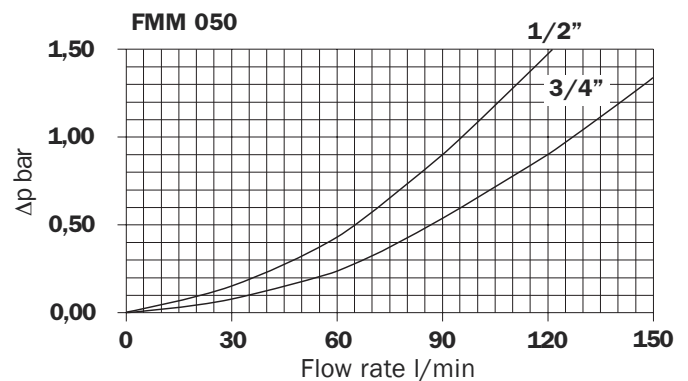
Connections

- FMM 050 - FHA 051: In-line Inlet/Outlet

Filter housings Δp pressure drop

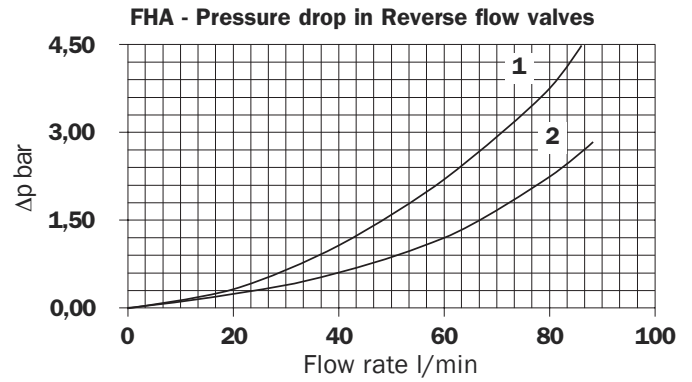
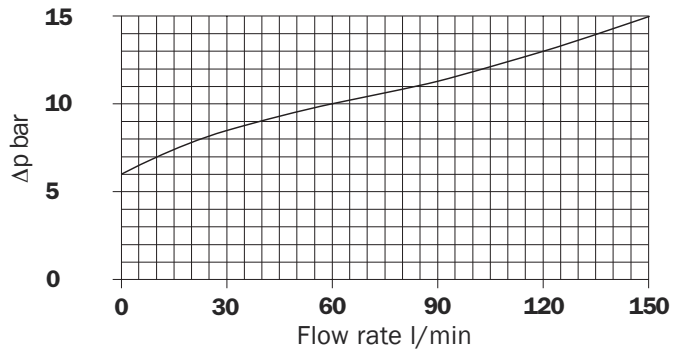
The curves are plotted utilising mineral oil with density of 0,86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.



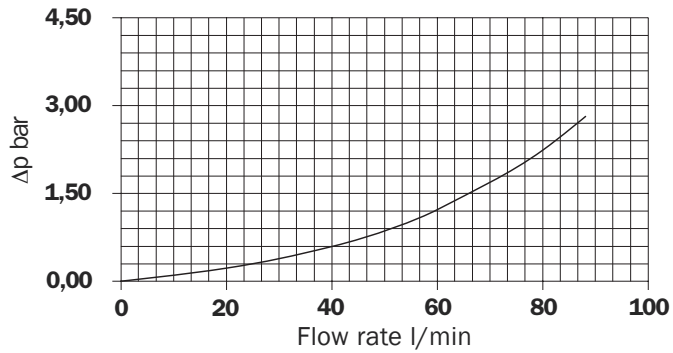
Valves (for FMM - FHA)

Bypass valve pressure drop



1 - Reverse flow
2 - In filter direction

FMM - Filter housing with check valve



Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 1,5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0,86 kg/dm³.
- Connections of filter under test G 3/4".

| | Length | Filtration | | | | | |
|----------------|--------|------------|-----|-----|-----|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 | M25 |
| FMM 050 | 1 | 44 | 44 | 80 | 82 | 110 | 140 |
| | 2 | 53 | 58 | 87 | 100 | 125 | 140 |
| | 3 | 68 | 71 | 100 | 110 | 135 | 140 |
| | 4 | 85 | 92 | 118 | 120 | 135 | 145 |
| | 5 | 110 | 112 | 130 | 135 | 140 | 152 |

Serie N - Flow rate l/min

| | Length | Filtration | | | | |
|----------------|--------|------------|-----|-----|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 |
| FMM 050 | 1 | 30 | 40 | 58 | 60 | 75 |
| | 2 | 45 | 50 | 78 | 90 | 119 |
| | 3 | 59 | 62 | 92 | 100 | 130 |
| | 4 | 75 | 82 | 106 | 112 | 135 |
| | 5 | 94 | 98 | 112 | 120 | 140 |

Serie H - Flow rate l/min

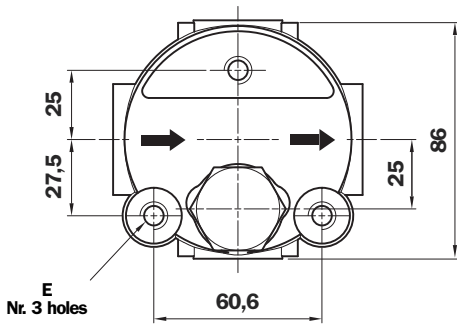
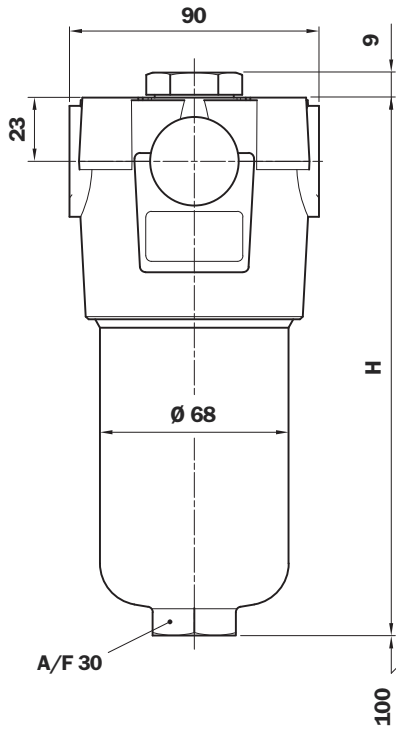
| | Length | Filtration | | | | | |
|----------------|--------|------------|-----|-----|-----|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 | M25 |
| FHA 051 | 1 | 44 | 42 | 77 | 78 | 98 | 132 |
| | 2 | 52 | 55 | 82 | 91 | 112 | 135 |
| | 3 | 66 | 68 | 92 | 100 | 118 | 135 |
| | 4 | 80 | 85 | 105 | 108 | 120 | 135 |
| | 5 | 102 | 105 | 120 | 124 | 130 | 140 |

Serie N - Flow rate l/min

| | Length | Filtration | | | | |
|----------------|--------|------------|-----|-----|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 |
| FHA 051 | 1 | 30 | 39 | 57 | 58 | 72 |
| | 2 | 45 | 49 | 74 | 84 | 105 |
| | 3 | 58 | 61 | 85 | 93 | 112 |
| | 4 | 75 | 78 | 98 | 105 | 115 |
| | 5 | 87 | 90 | 105 | 112 | 115 |

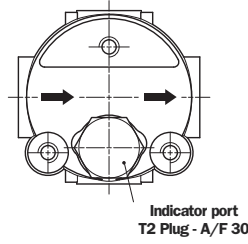
Serie H - Flow rate l/min

FMM 050 - FHA 051

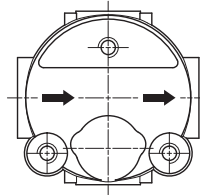


FMM 050 - FHA 051

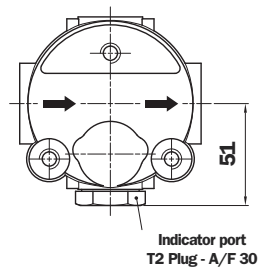
Option P01
Standard indicator port



Option P02
Without indicator port

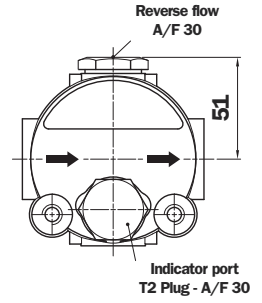


Option P03
Indicator port 90°

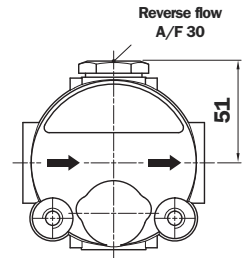


FHA 051 With Reverse flow

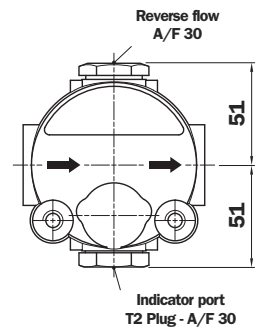
Option P01
Standard indicator port



Option P02
Without indicator port



Option P03
Indicator port 90°

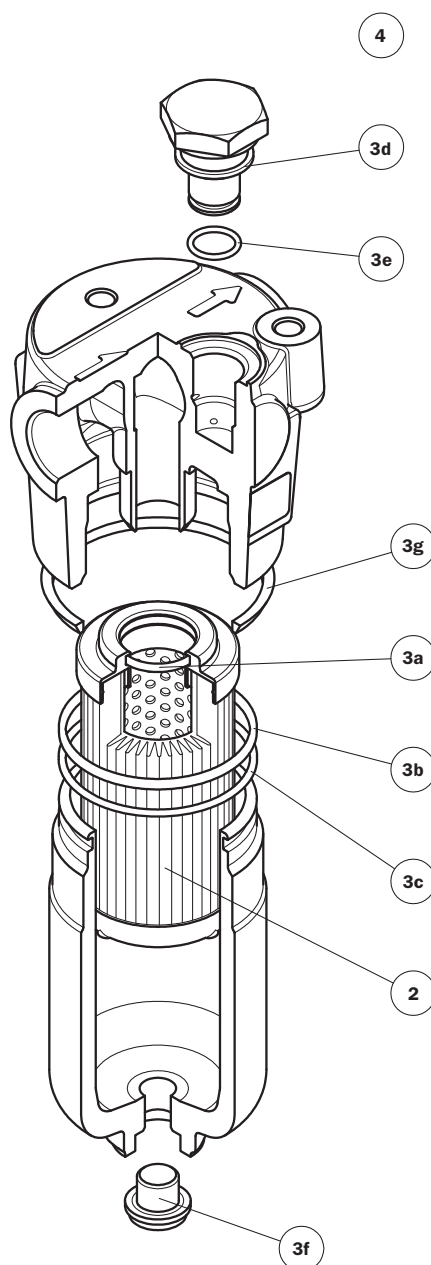


FMM - FHA

| Filter Length | H mm |
|---------------|------|
| 1 | 158 |
| 2 | 195 |
| 3 | 237 |
| 4 | 285 |
| 5 | 407 |

Thread connections

| Type | Size | E Depth 12 mm |
|------|--------------------------|---------------|
| A | M18x1,5 - ISO 6149 | M10 |
| B | M22x1,5 - ISO 6149 | M10 |
| C | G 1/2" | M10 |
| D | G 3/4" | M10 |
| E | 1/2" NPT | 3/8" UNC |
| F | 3/4" NPT | 3/8" UNC |
| G | SAE 8 - 3/4" - 16 UNF | 3/8" UNC |
| H | SAE 12 - 1 1/16" - 12 UN | 3/8" UNC |



| Item | Description | Q.ty | FILTER Series | | | |
|-----------|-------------------------------|------|------------------------------|-------------------|------------------------------|-------------------|
| | | | FMM 050 | | FHA 051 | |
| 1 | Filter assembly | 1 | See order table | | | |
| 2 | Filter element | 1 | See order table | | | |
| 3 | Seal Kit | 1 | NBR 02050314 | FPM 02050315 | NBR 02050288 | FPM 02050305 |
| 3a | Filter element seal | 1 | O-R 3093 Ø 23,67 x 2,62 | | O-R 3093 Ø 23,67 x 2,62 | |
| 3b | Bowl seal | 1 | O-R 3225 Ø 56,82 x 2,62 | | O-R 3237 Ø 60 x 2,62 | |
| 3c | Bowl seal anti-extrusion ring | 1 | Parbak 139 Ø 56,03 x 2,18 | | Parbak 141 Ø 59,21 x 2,18 | |
| 3d | Gasket | 1 | 01030058 (HNBR) | 01030046 (FPM) | 01030058 (HNBR) | 01030046 (FPM) |
| 3e | O-Ring indicator | 1 | O-R 2050 Ø 12,42 x 1,78 | | O-R 2050 Ø 12,42 x 1,78 | |
| 3f | Drain plug | 1 | G 1/4" with seal | | G 1/4" with seal | |
| 3g | Protective seal | 1 | 01026521 | | 01026521 | |
| 4 | Indicator connection plug | 1 | T2H | T2V | T2H | T2V |

Ordering information FMM 050 - FHA 051

Filter assembly FMM-FHA

Example: FMM

| | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8a |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

050 2 B A C A10 N P01

Filter element HP

Example: HP

| | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 2 | 6 | 4 | 7 | 8b |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

050 2 A10 A N P01

1 - Style

FMM - Filter Filter element

FHA - Filter Filter element

2 - Filter length

3 - Valves

Without bypass

With bypass

Without bypass + check valve*

With bypass + check valve*

With reverse flow* (only for FHA 051)

With reverse flow + bypass* (only for FHA 051)

*Reduced cross-section oilways

4 - Filter seals

NBR

FPM

5 - Connections

Threaded

FMM 050 - FHA 051

| Type | Size |
|------|--------------------------|
| A | M18x1,5 - ISO 6149 |
| B | M22x1,5 - ISO 6149 |
| C | G 1/2" |
| D | G 3/4" |
| E | 1/2" NPT |
| F | 3/4" NPT |
| G | SAE 8 - 3/4" - 16 UNF |
| H | SAE 12 - 1 1/16" - 12 UN |

6 - Filter element

| | | |
|----------------------------------|----------------------------|---|
| <input type="text" value="A03"/> | Inorganic microfibre 3 µm | } Absolute filtration Inorganic Microfibre βx (c) ≥ 1000 |
| <input type="text" value="A06"/> | Inorganic microfibre 6 µm | |
| <input type="text" value="A10"/> | Inorganic microfibre 10 µm | |
| <input type="text" value="A16"/> | Inorganic microfibre 16 µm | |
| <input type="text" value="A25"/> | Inorganic microfibre 25 µm | |
| <input type="text" value="M25"/> | Wire mesh 25 µm | } Nominal Filtration |

7 - Max filter element differential pressure

Δp 20 bar

Δp 20 bar (filter with reverse flow + bypass)

Δp 210 bar

8 - Option

a - Filter

Standard threaded connection for indicator

Without threaded connection for indicator

Threaded connection for 90° indicator

Customer request

b - Filter element

MP Filtri standard

Customer request

For Clogging Indicator:
See page 324

MP Filtri - The filter functions as described in this bulletin are valid exclusively for original MP Filtri filter elements and replacement parts. All rights reserved.

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