

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

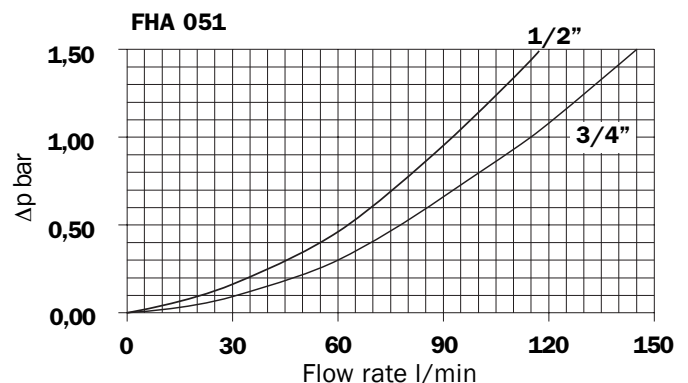
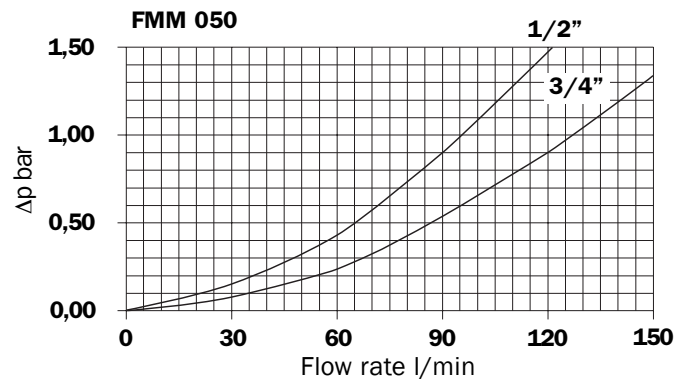
Connections

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

Filter housings Δp pressure drop

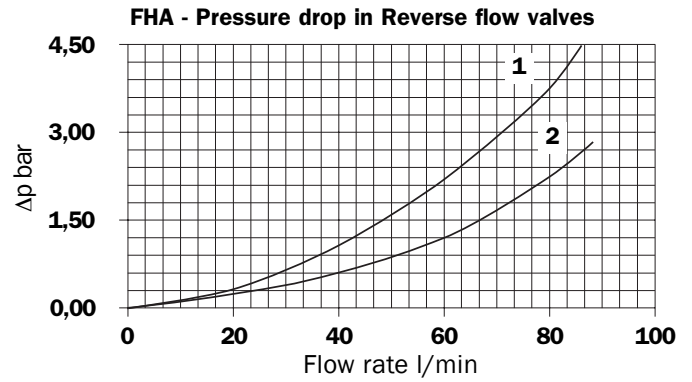
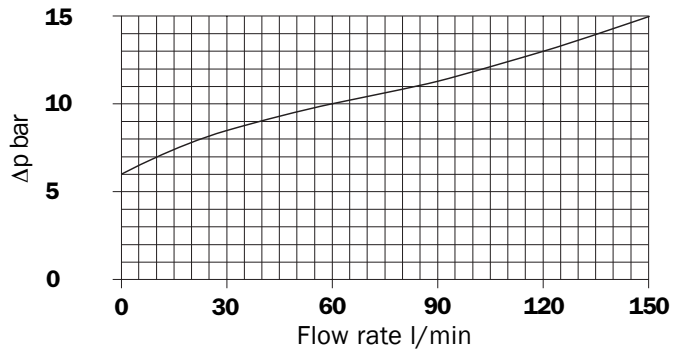
The curves are plotted utilising mineral oil with density of 0.86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.



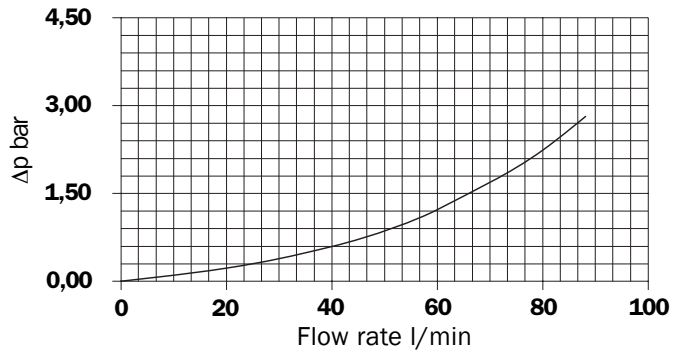
Valves (for FMM - FHA)

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".

Filtration

	Length	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

Filtration

	Length	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

Filtration

	Length	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

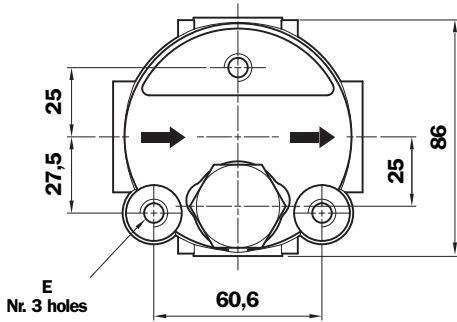
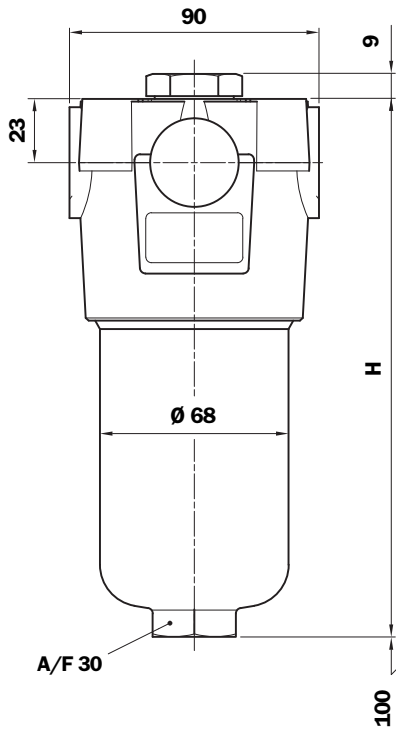
Filtration

	Length	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

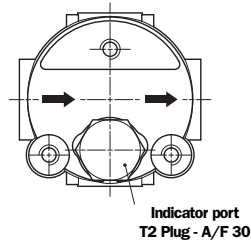
FMM 050 - FHA 051

FMM 050 - FHA 051

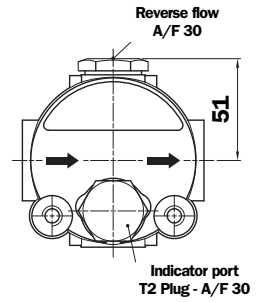


FHA 051 With Reverse flow

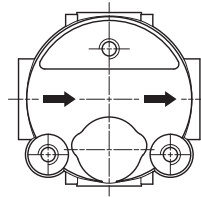
Option P01 Standard indicator port



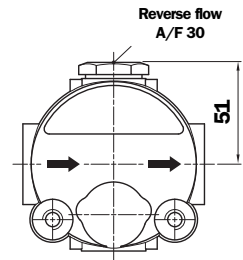
Option P01 Standard indicator port



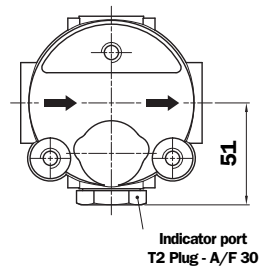
Option P02 Without indicator port



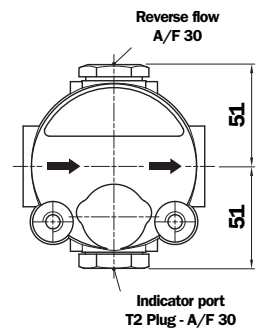
Option P02 Without indicator port



Option P03 Indicator port 90°



Option P03 Indicator port 90°

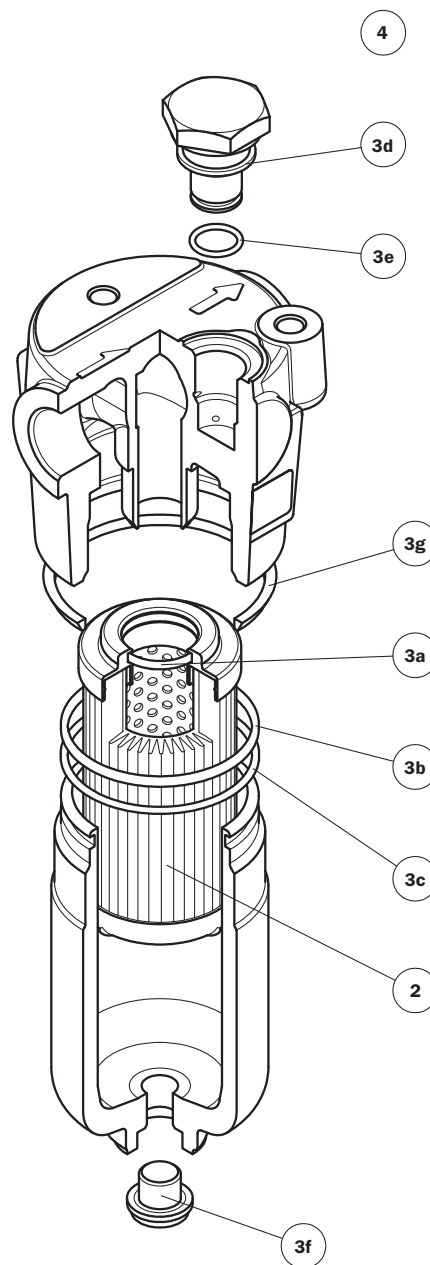


FMM - FHA

Length Filter	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 3227 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 bonded seal		G 1/4" with bonded 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

	1	2	3	4	5	6	7	8a
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FMM	050	2	B	A	C	A10	N	P01

Filter element HP

	1	2	6	4	7	8b
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: HP	050	2	A10	A	N	P01

1 - Style

FMM - Filter	Filter element
050	050
FHA - Filter	Filter element
051	050

6 - Filter element

A03	Inorganic microfibre 3 μ	} Absolute filtration Inorganic Microfibre $\beta_x(c) \geq 1000$
A06	Inorganic microfibre 6 μ	
A10	Inorganic microfibre 10 μ	
A16	Inorganic microfibre 16 μ	
A25	Inorganic microfibre 25 μ	} Nominal Filtration Metal mesh
M25	Wire mesh 25 μ	

2 - Filter length

050	1	2	3	4	5
051	1	2	3	4	5

7 - Max filter element differential pressure

N	Δp 20 bar
R	Δp 20 bar (filter with reverse flow + bypass)
S	Δp 210 bar

3 - Valves

S	Without bypass
B	With bypass
T	Without bypass + check valve*
D	With bypass + check valve*
V	With reverse flow* (only for FHA 051)
Z	With reverse flow + bypass* (only for FHA 051)

*Reduced cross-section oilways

8 - Option

a - Filter

P01	Standard threaded connection for indicator
P02	Without threaded connection for indicator
P03	Threaded connection for 90° indicator (only for FHA)
Pxx	Customer request

b - Filter element

P01	MP Filtri standard
Pxx	Customer request

4 - Filter seals

A	NBR
V	FPM
<input type="checkbox"/>	On request

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

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