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 (dm^3)

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

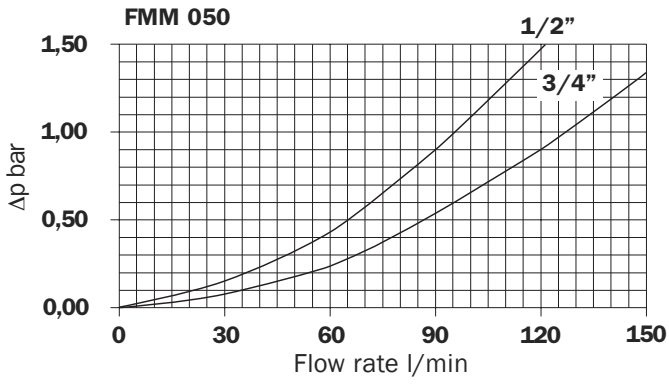
Connections

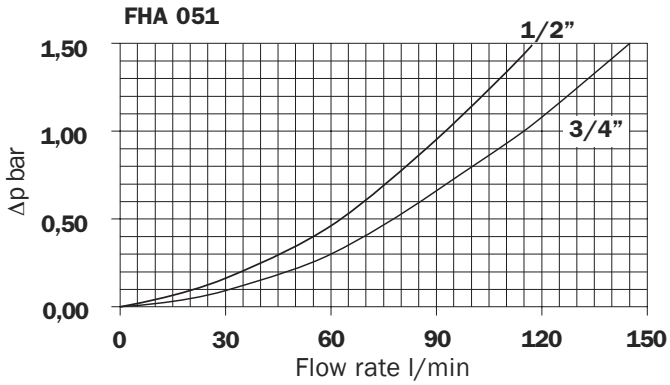
- FMM 050 - FHA 051: In-line Inlet/Outlet

Filter housings Δp pressure drop

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

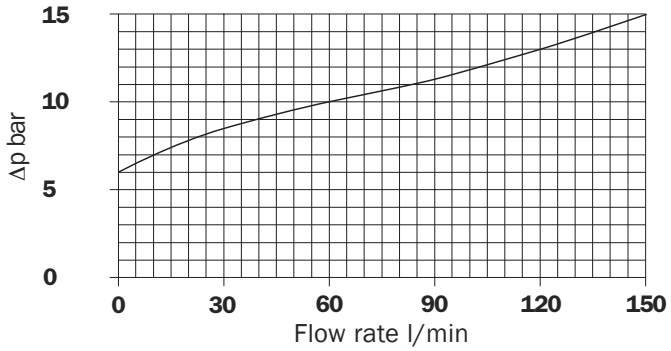
Δp varies proportionally with density.



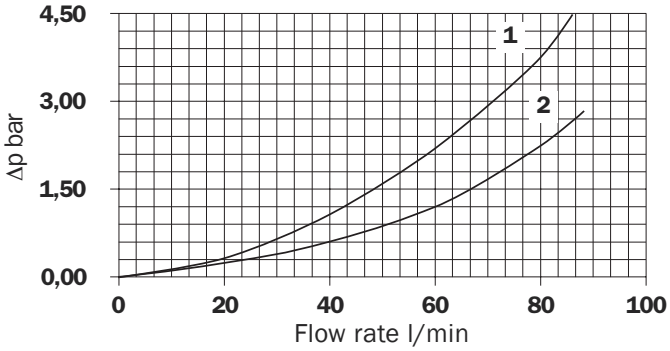


Valves (for FMM - FHA)

Bypass valve pressure drop

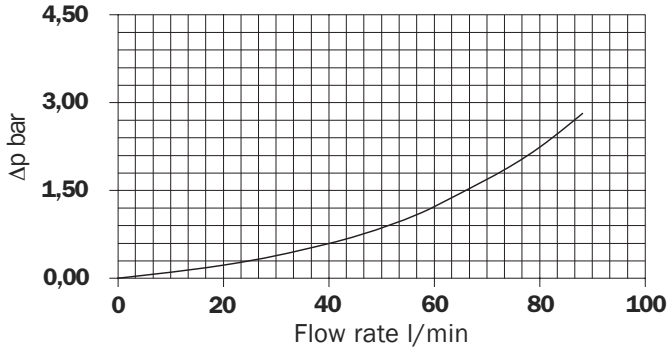


FHA - Pressure drop in Reverse flow valves



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

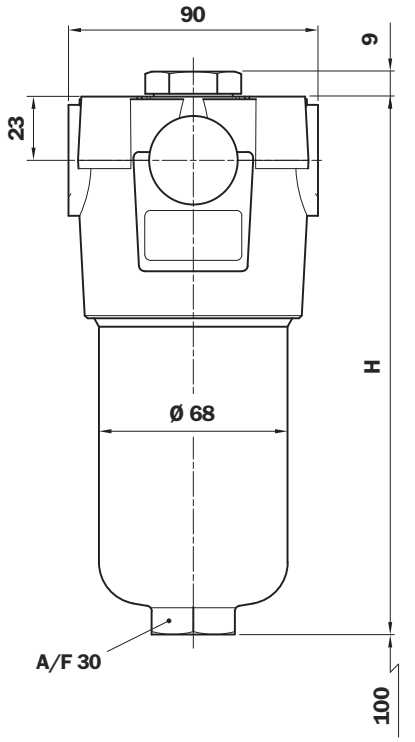
		Filtration					
	Length	A03	A06	A10	A16	A25	M25
FHA 051	1	44	42	77	78	98	132
	2	52	55	82	91	112	135
	3	66	68	92	100	118	135
	4	80	85	105	108	120	135
	5	102	105	120	124	130	140

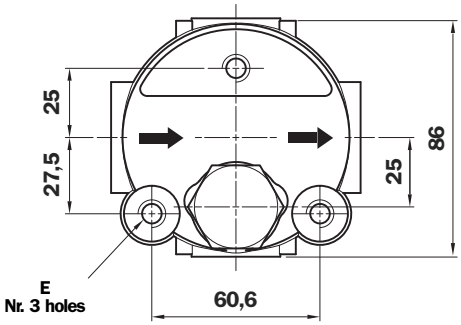
Serie N - Flow rate l/min

		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

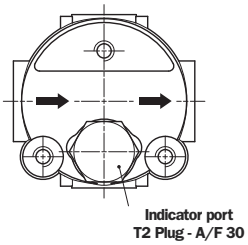
FMM 050 - FHA 051



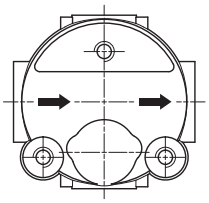


FMM 050 - FHA 051

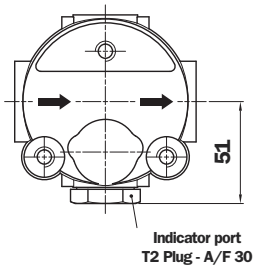
Option P01
Standard indicator port



Option P02
Without indicator port

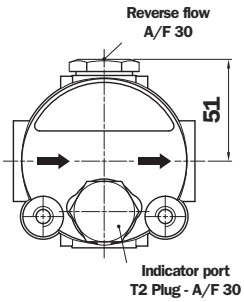


Option P03
Indicator port 90°

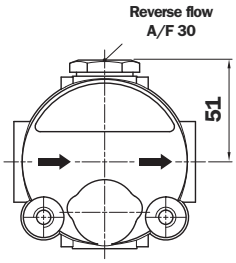


FHA 051
With Reverse flow

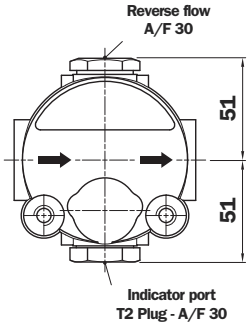
Option P01
Standard indicator port



Option P02
Without indicator port



Option P03
Indicator port 90°

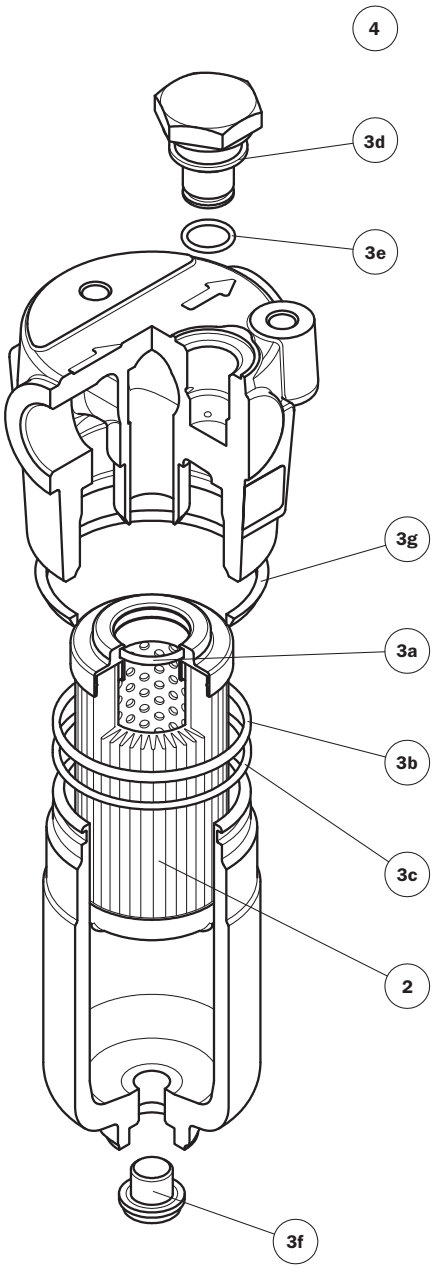


FMM - FHA

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 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 bonded seal		G 1/4" with bonded seal	
3g	Protective seal	1	01026521		01026521	
4	Indicator connection plug	1	T2H	T2V	T2H	T2V

Notes

Ordering information FMM 050 - FHA 051

Filter assembly

FMM-FHA

	1	2	3	4	5	6	7	8a
	☐	☐	☐	☐	☐	☐	☐	☐
Example: FMM	**050**	**2**	**B**	**A**	**C**	**A10**	**N**	**P01**

Filter element

HP

	1	2	6	4	7	8b
	☐	☐	☐	☐	☐	☐
Example: HP	**050**	**2**	**A10**	**A**	**N**	**P01**

1 - Style

FMM - Filter	Filter element
050	**050**

FHA - Filter	Filter element
051	**050**

2 - Filter length

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

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

4 - Filter seals

A	NBR
V	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

A03	Inorganic microfibre 3 μm	Absolute filtration Inorganic Microfibre ßx (c) ≥ 1000
A06	Inorganic microfibre 6 μm	
A10	Inorganic microfibre 10 μm	
A16	Inorganic microfibre 16 μm	
A25	Inorganic microfibre 25 μm	
M25	Wire mesh 25 μm	Nominal Filtration

7 - Max filter element differential pressure

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

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

For Clogging Indicator:
See page 318