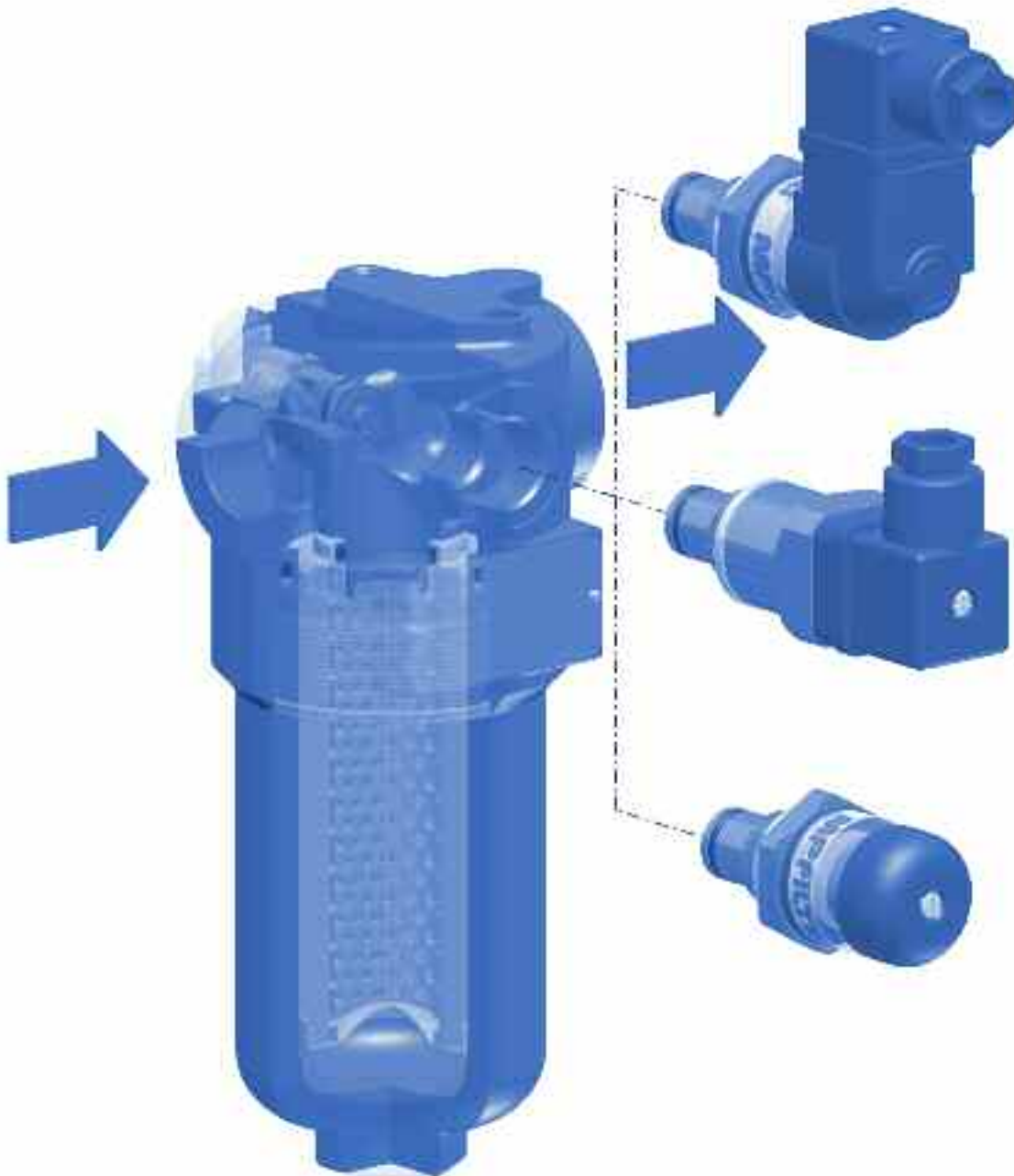


FMIP

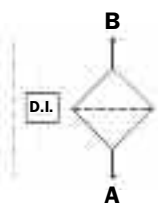


SERIES FMIP

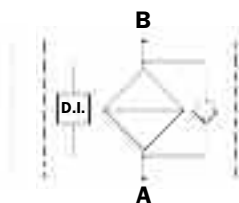
Working pressure
320 bar



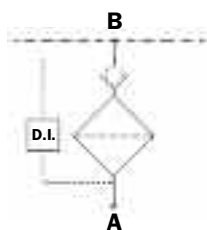
Style S



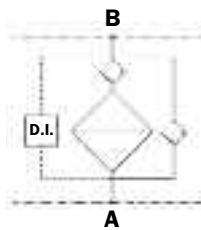
Style B



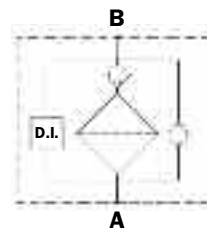
Style T



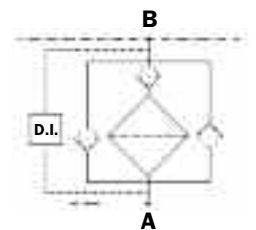
Style D



Style V



Style Z



Technical data

Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Cast iron (chemical heat treatment)
- Bypass valve: Brass
- Reverse Flow: Steel (series 135 - 320 only)
- Check valve: Steel

Pressure

- Maximum operating pressure: 320bar (32 MPa)
- Test pressure: 420 bar (42 MPa)
- Burst pressure: 840 bar (84 MPa)
- Pulsed pressure fatigue test 1,000,000 cycles with pressure from 0 to 320 bar (32 MPa)

Temperature

- From -25 °C to +110 °C

Bypass valve

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

Elements type Δp

- Microfibre elements series N-R: 20 bar
- Elements in stainless steel mesh series N: 20 bar
- Elements in microfibre series H-S: 210 bar
- Oil flow from exterior to interior.

Seals

- Standard Nitrile (NBR) series A
- Optional FPM series V

Weights without filter elements (kg)

Length	1	2	3	4
• FMP 065	3.0	3.4	5.2	—
• FMP 135	6.0	8.2	12.0	—
• FMP 320	12.7	14.7	20.7	23.7

Filter internal volumes (dm³)

Length	1	2	3	4
• FMP 065	0.38	0.45	0.67	—
• FMP 135	0.40	1.02	1.24	—
• FMP 320	1.61	2.61	3.27	4.20

Connections

In-line Inlet/Outlet

Compatibility

- Bodies compatible with: Mineral oils to ISO 2943 - aqueous emulsions synthetic fluids, water/glycol.
- Filter elements compatible with: Mineral oils to ISO 2943 - aqueous emulsions synthetic fluids, water/glycol.
- Nitrile (NBR) seals series A, compatible with: Mineral oils to ISO 2943 - aqueous emulsions synthetic fluids, water/glycol.
- V series FPM seals, compatible with: Synthetic fluids type HS-HFDR-HFDS-HFDU To ISO 2943

Filter Element Area

Filter element in stainless steel mesh
Length

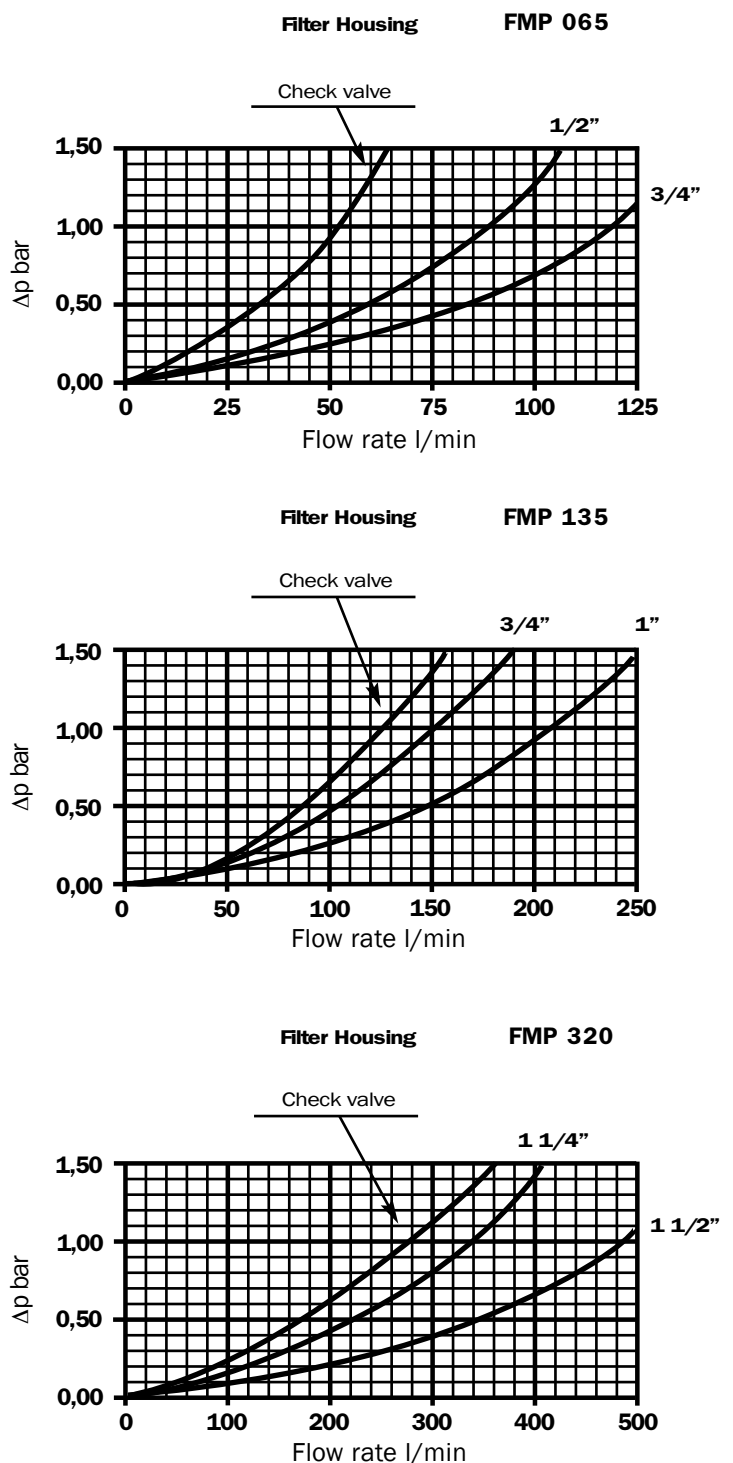
Type	1	2	3	4
HP065	374	530	1064	-
HP135	950	2020	2700	-
HP320	1650	3645	5970	8280

Values expressed in cm²

Pressure drops Δp Housing

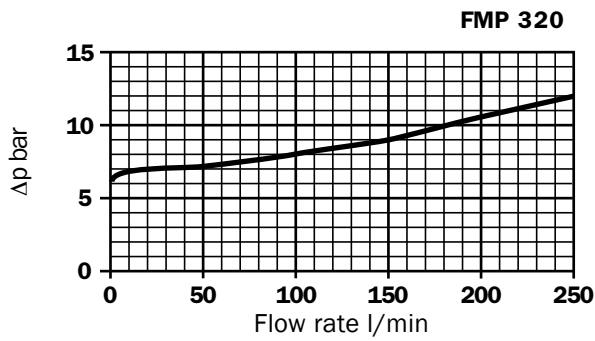
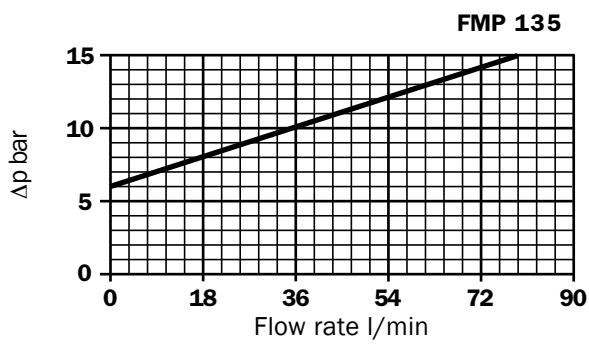
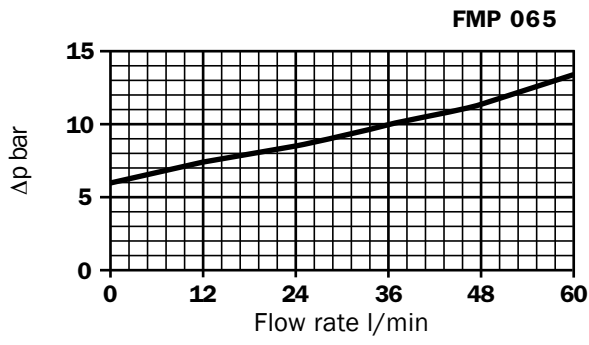
The curves are plotted using mineral oil with density of 0.86 kg/dm³ to ISO 3968.

Δp varies proportional with density.

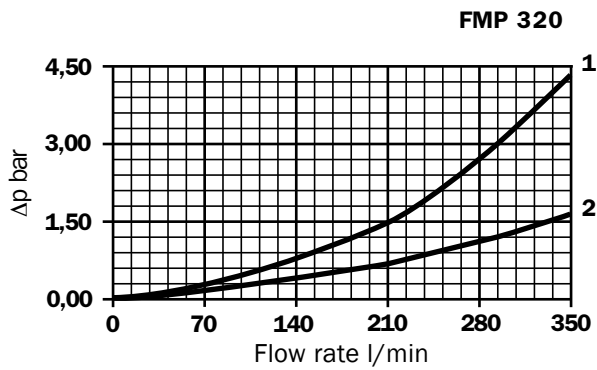


Valves

Bypass valve pressure drops

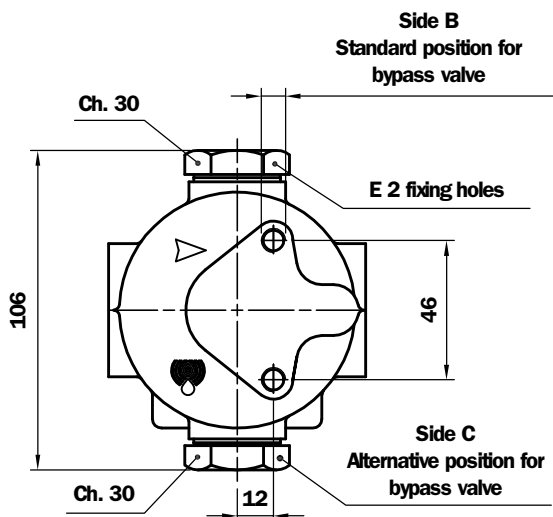
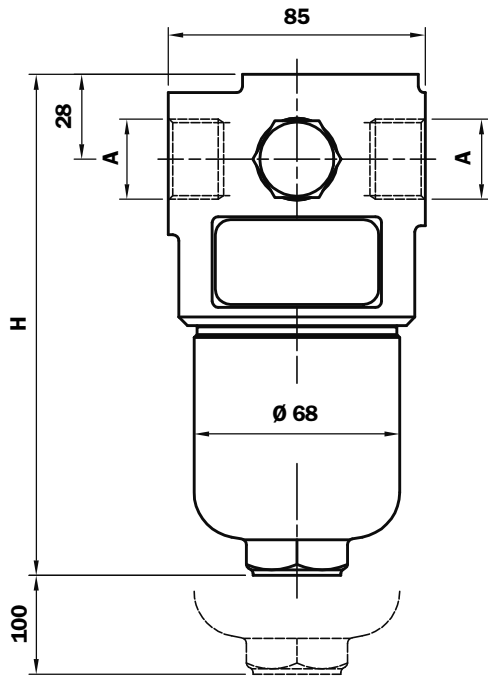


Pressure drop in reverse flow valves



- 1 - Reverse Flow
- 2 - In filter direction

FMP 065



Indicator and bypass valve positions can be inverted.

Recommended maximum flow rate

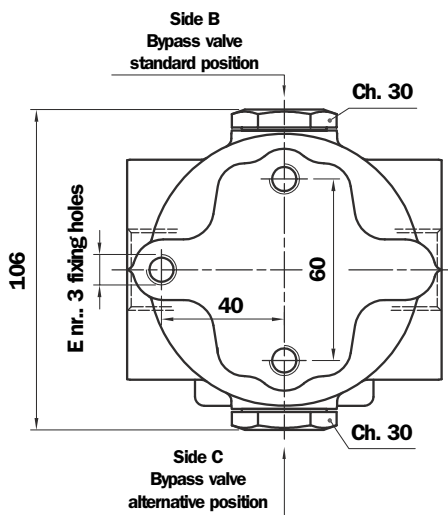
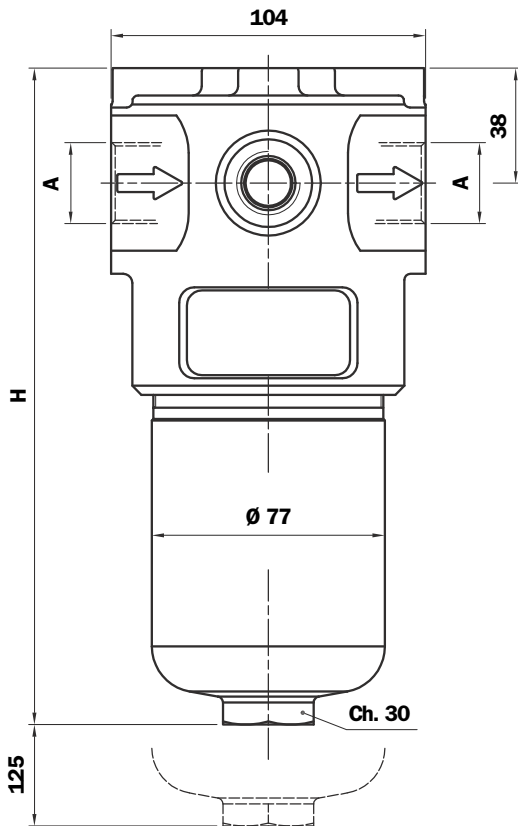
- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 3/4".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	23	22	1
A06	30	23	
A10	48	43	
A16	53	50	
A25	72	68	
M25	105	-	
A03	31	30	2
A06	45	35	
A10	60	57	
A16	64	63	
A25	82	77	
M25	106	-	
A03	53	52	3
A06	61	58	
A10	79	78	
A16	84	83	
A25	94	93	
M25	108	-	

A Threaded Connections	E Depth 15 mm
G 1/2"	M8
1/2" NPT	5/16" UNC
G 3/4"	M8
3/4" NPT	5/16" UNC
SAE 8 (3/4"- 16 UNF)	5/16" UNC
SAE 12 (1 1/16"- 12 UN)	5/16" UNC

Filter Length	H mm
1	169
2	200
3	302

FMP 135



Indicator and bypass valve positions can be inverted.

Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1".

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	69	50	1
A06	74	57	
A10	120	98	
A16	129	101	
A25	171	156	
M25	200	-	2
A03	110	91	
A06	117	110	
A10	148	136	
A16	151	139	
A25	208	175	3
M25	230	-	
A03	150	126	
A06	153	140	
A10	192	170	
A16	195	179	3
A25	213	196	
M25	232	-	

A Threaded Connections E Depth 15 mm

G 3/4"	M10
3/4" NPT	3/8" UNC
G 1"	M10
1" NPT	3/8" UNC
SAE 12 (1 1/16" - 12 UN)	3/8" UNC
SAE 16 (1 5/16" - 12 UN)	3/8" UNC

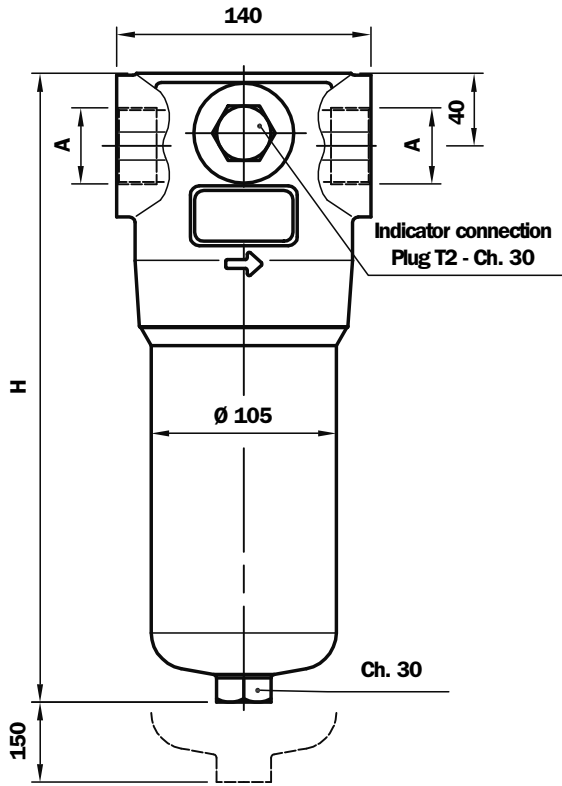
A Flanged Connections B Depth 15 mm

3/4" SAE 3000 psi/M	M10
3/4" SAE 3000 psi/UNC	3/8" UNC
1" SAE 3000 psi/M	M10
1" SAE 3000 psi/UNC	3/8" UNC

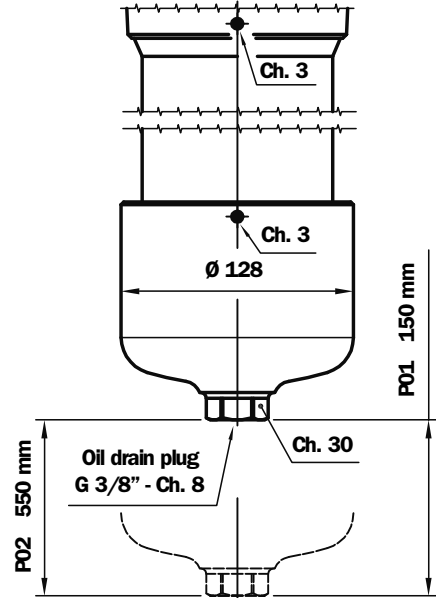
Filter Length H mm

1	220
2	333
3	408

FMP 320

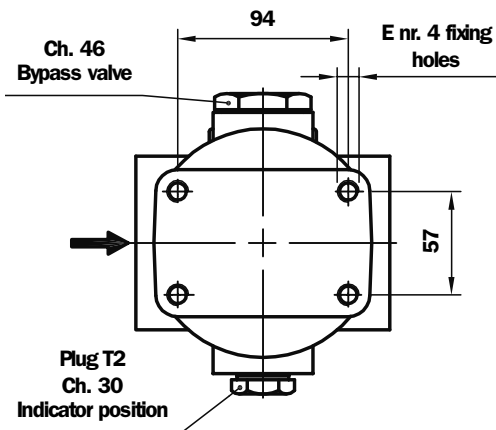


Only for FMP 320 length 4

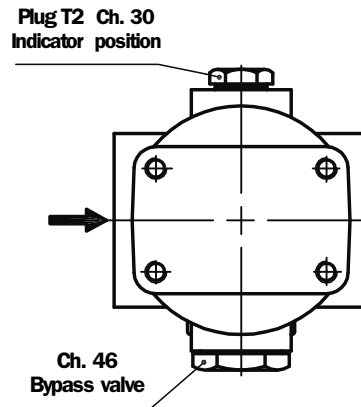


Style P01 standard maintenance from head.
Style P02 maintenance option from housing base.

Side B
Bypass valve standard
position



Side C
Bypass valve alternative
position



Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 1.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.
- Connections of filter under test G 1 1/2".

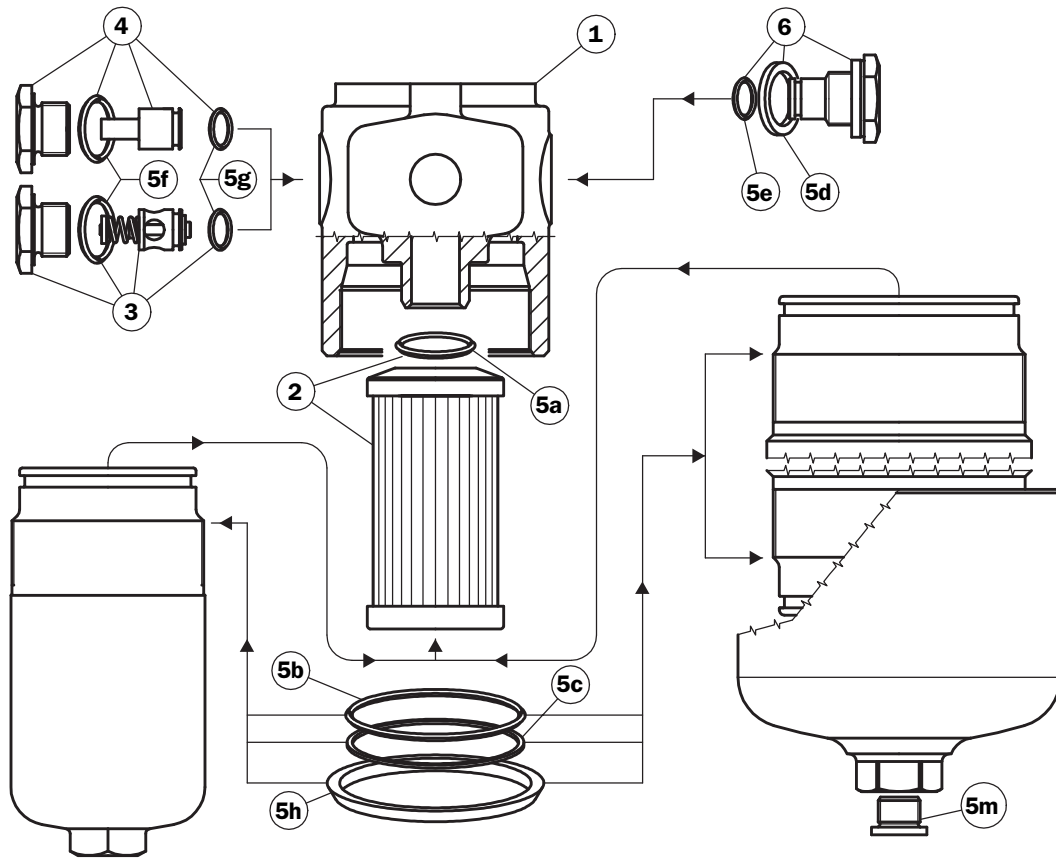
Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	126	107	1
A06	137	112	
A10	230	185	
A16	274	193	
A25	330	292	
M25	425	-	
A03	248	192	2
A06	270	220	
A10	376	300	
A16	395	312	
A25	440	378	
M25	445	-	
A03	319	255	3
A06	353	300	
A10	427	367	
A16	440	375	
A25	450	417	
M25	465	-	
A03	354	298	4
A06	375	320	
A10	430	375	
A16	447	382	
A25	467	422	
M25	475	-	

A Threaded Connections	E Depth 15 mm
G 1 1/4"	M12
1 1/4" NPT	1/2" UNC
G 1 1/2"	M12
1 1/2" NPT	1/2" UNC
SAE 20 (1 5/8" 12 UN)	1/2" UNC
SAE 24 (1 7/8" 12 UN)	1/2" UNC

A Flanged Connections	E Depth 15 mm
1 1/4" SAE 3000 psi/M	M12
1 1/4" SAE 3000 psi/UNC	1/2" UNC
1 1/2" SAE 3000 psi/M	M12
1 1/2" SAE 3000 psi/UNC	1/2" UNC

Filter Length	H mm
1	263
2	386
3	518
4	673

Spare parts FMP



Pos.	Description	Qty.	FMP Series FILTER						
			065 1 - 2 - 3		135 1 - 2 - 3		320 1 - 2 - 3 - 4		
1	Complete filter	1	See order table						
2	Filter element	1	See order table						
3	Bypass assembly	1	02001312 (NBR) 02001385 (FPM)				02001396 (NBR) 02001397 (FPM)		
4	Non bypass assembly	1	02001314 (NBR) 02001386 (FPM)				02001398 (NBR) 02001399 (FPM)		
5	Seal kits	1	NBR 02050267	FPM 02050278	NBR 02050293	FPM 02050294	NBR 02050274	FPM 02050285	
5a	Filter element O-Ring	1	OR 4100 Ø 24.99 x 3.53		OR 3106 Ø 26.65 x 2.62		OR 144 Ø 39.69 x 3.53		
5b	O-Ring for housing	1	OR 159 Ø 55.56 x 3.53		OR 3256 Ø 64.77 x 2.62		2 pcs.	OR 3350 Ø 88.57 x 2.62	
5c	Anti-extrusion ring	1	Parbak 227 Ø 54.53 x 3		Parbak 144 Ø 63.96 x 2.18		2 pcs.	Parbak 153 Ø 89.36 x 2.18	
5d	Gasket	1	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)	
5e	O-Ring	1	O-R 2050 Ø 12.42 x 1.78						
5f	Bp or Non Bp O-Ring	1	Bonded seal G 1/2" - FPM					O-R 3143 (NBR 90 Sh A) Ø 36,14 x 2,62	
5g	Bp or Non Bp O-Ring	1	OR 2050 Ø 12.42 x 1.78					OR 3106 Ø 26,65 x 2,62	
5h	Protective seal	1	01026521		01026509		01026510		
5m	Oil drain plug (not all model)	1	-		-		G 3/8" with bonded seal		
6	Indicator plug	1	T2H	T2V	T2H	T2V	T2H	T2V	
-	Indicators	1	See order table						

Ordering information FMP

Filter assembly FMP

Example: FMP

1	2	3	4	5	6	7	8_a
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
065	2	B	A	G1	A03	N	P01

Filter element HP

Example: HP

1	2	6	4	7	8_b
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
065	2	A03	A	N	P01

1 - Size

065
135
320

2 - Filter length

1
2
3
4

(only for FMP 320)

3 - Valves

S	Without bypass side B - Optional
B	With bypass side B - Standard
C	With bypass side C - Optional
D	With bypass side B + check valve*
V	With Reverse Flow* (Only for size 320)
Z	With Reverse Flow + bypass* (Only for size 320)
T	Without bypass + check valve*
E	Without bypass side C - Optional

*Reduced cross-section oilways

4 - Seals

A	NBR
V	FPM

5 - Connections

Type	065	135	320
G1	G 1/2"	G 3/4"	G 1 1/4"
G2	G 3/4"	G 1"	G 1 1/2"
G3	1/2" NPT	3/4" NPT	1 1/4" NPT
G4	3/4" NPT	1" NPT	1 1/2" NPT
G5	SAE 8 (3/4" 16 UNF)	SAE 12 (1 - 1/16" 12 UN)	SAE 20 (1 5/8" 12 UN)
G6	SAE 12 (1 - 1/16" 12 UN)	SAE 16 (1 - 5/16" 12 UN)	SAE 24 (1 7/8" 12 UN)
F1	-	3/4" SAE 3000 PSI/M	1 - 1/4" SAE 3000 PSI/M
F2	-	1" SAE 3000 PSI/M	1 - 1/2" SAE 3000 PSI/M
F3	-	3/4" SAE 3000 PSI/UNC	1 - 1/4" SAE 3000 PSI/UNC
F4	-	1" SAE 3000 PSI/UNC	1 - 1/2" SAE 3000 PSI/UNC

DIFFERENTIAL INDICATORS
(see page 15)

6 - Filter elements

A03	Inorganic microfibre 3 µ	} βx (c) ≥ 1000 See page 10
A06	Inorganic microfibre 6 µ	
A10	Inorganic microfibre 10 µ	
A16	Inorganic microfibre 16 µ	
A25	Inorganic microfibre 25 µ	
M25	Stainless steel mesh 25 µ (style N only)	

7 - Filter elements collapse pressure

N	20 bar
H	210 bar
R	20 bar (Filter with reverse flow + bypass)
S	210 bar (Filter with reverse flow)

8 - Options

a) Filter

P01	MP Standard filters
P02	Maintenance from housing base (only for FMP 320 - 4)
Pxx	Customer request

b) Filter element

P01	MP Filtri standard
Pxx	Customer request

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