

# FMP

**Maximum pressure 320 bar**  
**Flow rates to 475 l/min**



## Technical data

### Filter housing (Materials)

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

### Pressure

- Working pressure: 320 bar (32 MPa)
- Test pressure: 480 bar (48 MPa)
- Burst pressure: 960 bar (96 MPa)
- Pulse 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  $\pm$ 10%
- Other opening pressures on request.

### $\Delta p$ Elements type

- Microfibre filter elements series N-R: 20 bar
- Microfibre filter elements series H-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

### FMP FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

### Weights (kg)

Length	1	2	3	4
• FMP065	3.26	3.62	4.83	-
• FMP135	5.61	7.21	8.27	-
• FMP320	10.95	13.08	15.37	17.85

### Volumes (dm<sup>3</sup>)

Length	1	2	3	4
• FMP065	0.36	0.47	0.84	-
• FMP135	0.45	0.78	1.00	-
• FMP320	1.03	1.75	2.52	3.35

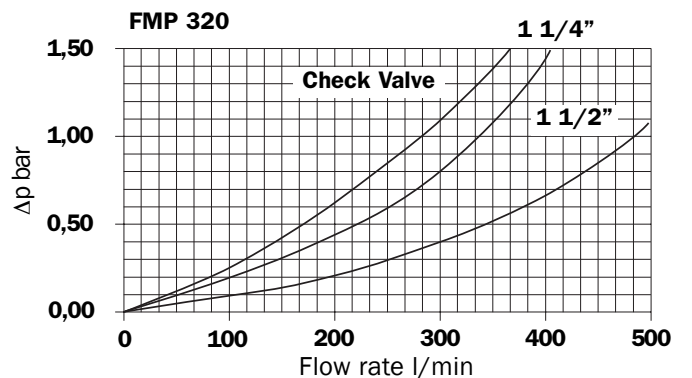
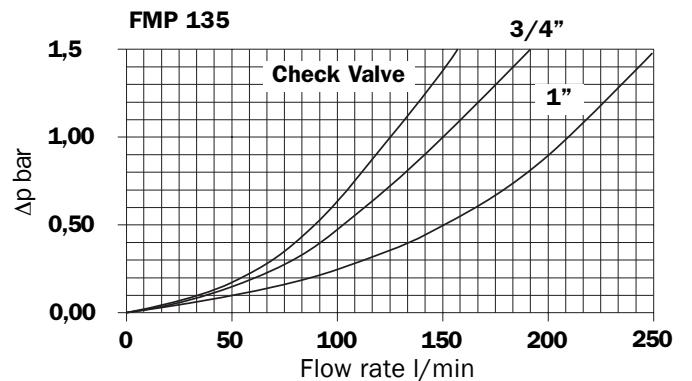
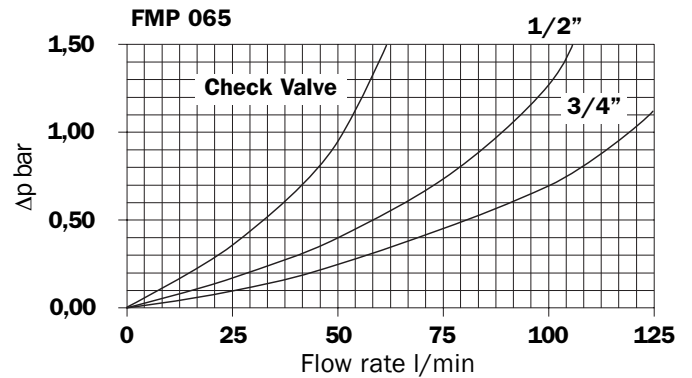
### Connections

- FMP: In-line Inlet/Outlet

### Filter housings $\Delta p$ pressure drop

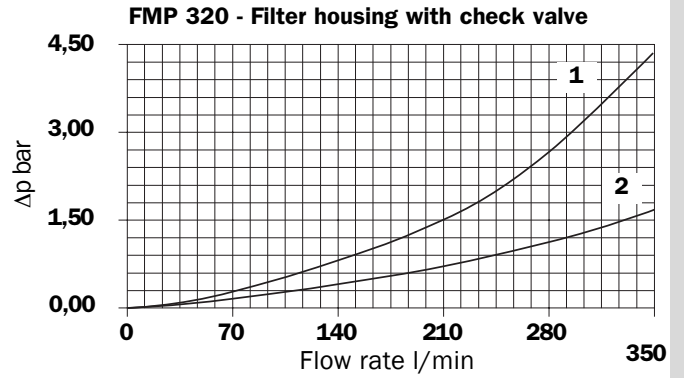
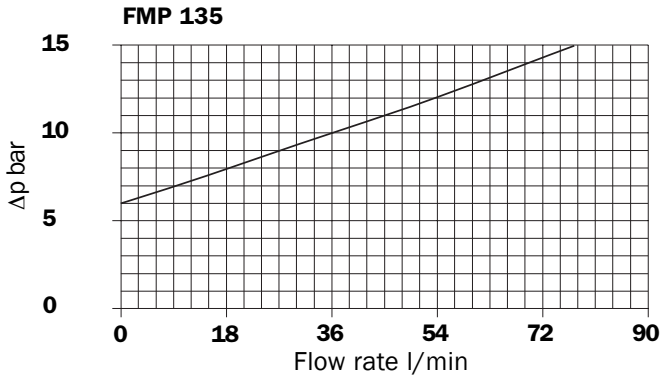
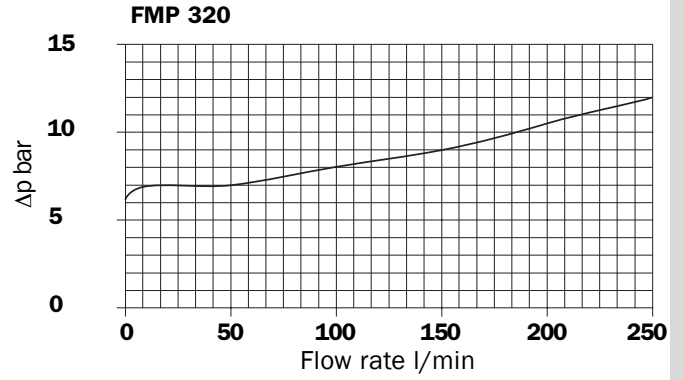
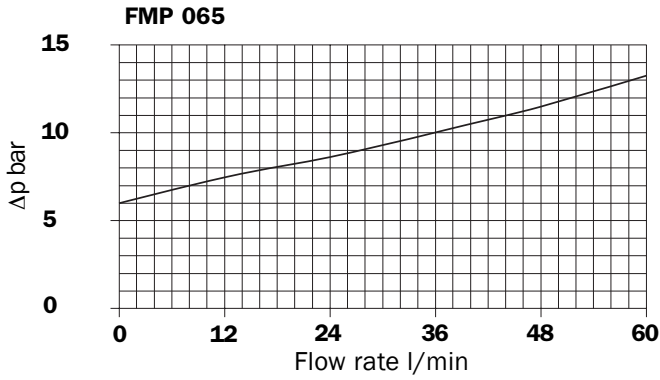
The curves are plotted utilising mineral oil with density of 0.86 kg/dm<sup>3</sup> to ISO 3968.

$\Delta p$  varies proportionally with density.



**Valves**

**Bypass valve pressure drop**



1 - Reverse flow  
2 - In filter direction

**Recommended maximum flow rate**

- Pressure drop of filter assembly equal to  $\Delta p$  1,5 bar.
- Oil kinematic viscosity 30 mm<sup>2</sup>/s (cSt).
- Density 0,86 kg/dm<sup>3</sup>.
- Connections of filter under test G 3/4".

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FMP 065</b>	1	23	30	48	53	72	105
	2	31	45	60	64	85	106
	3	53	61	79	84	94	108

**Serie N - Flow rate l/min**

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FMP 135</b>	1	66	74	112	120	157	180
	2	104	110	138	141	185	205
	3	138	141	170	178	190	208

**Serie N - Flow rate l/min**

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FMP 320</b>	1	126	137	230	280	300	440
	2	240	250	376	390	400	445
	3	300	330	427	440	450	460
	4	350	370	430	447	467	475

**Serie N - Flow rate l/min**

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FMP 065</b>	1	22	23	43	50	68
	2	30	35	57	68	77
	3	52	58	78	83	93

**Serie H - Flow rate l/min**

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FMP 135</b>	1	48	55	93	96	145
	2	87	104	127	129	160
	3	118	130	155	165	178

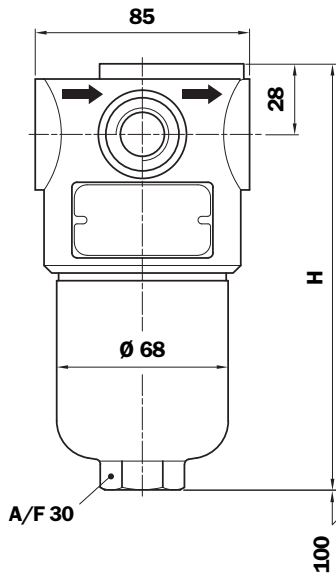
**Serie H - Flow rate l/min**

**Filtration**

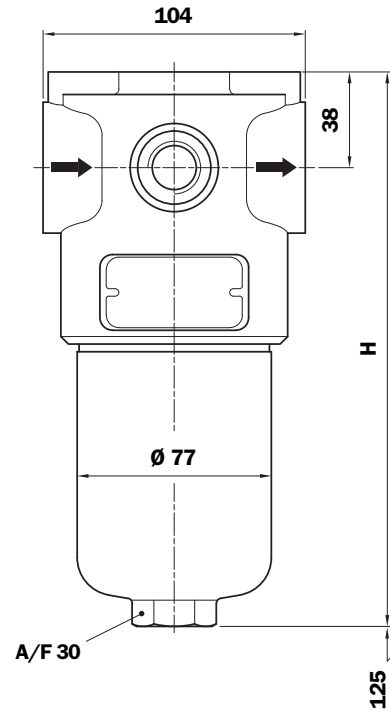
	Length	A03	A06	A10	A16	A25
<b>FMP 320</b>	1	107	112	185	193	250
	2	192	200	300	312	378
	3	255	300	367	375	417
	4	298	320	375	400	450

**Serie H - Flow rate l/min**

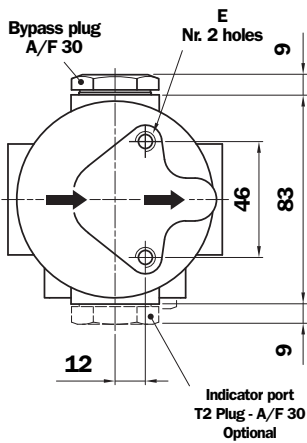
# FMP 065



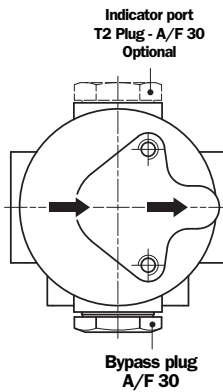
# FMP 135



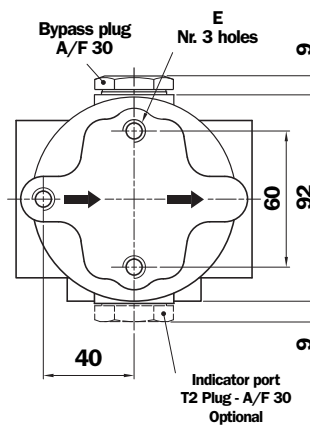
## Standard Bypass side B



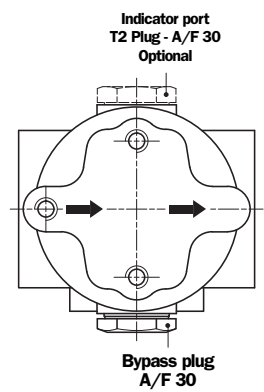
## Optional Bypass side C



## Standard Indicator port side B



## Optional Indicator port side C



### FMP 065

Length Filter	H mm
1	169
2	200
3	302

### FMP 135

Length Filter	H mm
1	221
2	334
3	409

### FMP 065 - 135:

Indicator and bypass valve positions can be inverted.

### FMP 065 - Thread connections

Type	Size	E Depth 15 mm
G1	G 1/2"	M8
G2	G 3/4"	M8
G3	1/2" NPT	5/16" UNC
G4	3/4" NPT	5/16" UNC
G5	SAE 8 - 3/4" - 16 UNF	5/16" UNC
G6	SAE 12 - 1 1/16" - 12 UN	5/16" UNC

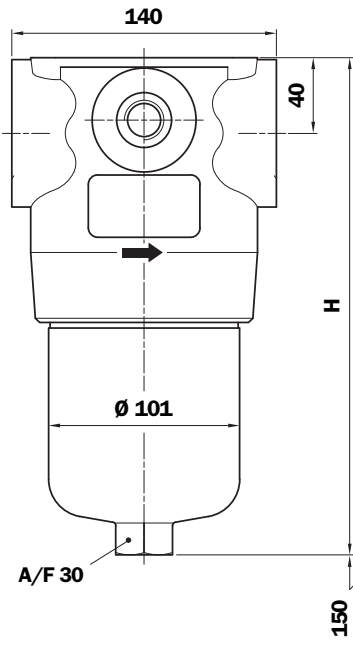
### FMP 135 - Thread connections

Type	Size	E Depth 10 mm
G1	G 3/4"	M10
G2	G 1"	M10
G3	3/4" NPT	3/8" UNC
G4	1" NPT	3/8" UNC
G5	SAE 12 - 1 1/16" - 12 UN	3/8" UNC
G6	SAE 16 - 1 5/16" - 12 UN	3/8" UNC

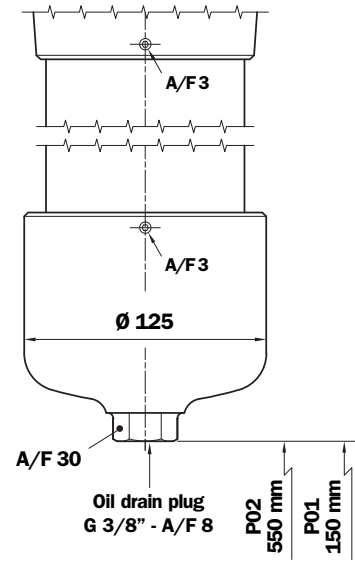
### FMP 135 - Flange connections

Type	Size	E Depth 10 mm
F1	3/4" SAE 3000 psi/M	M10
F2	1" SAE 3000 psi/M	M10
F3	3/4" SAE 3000 psi/UNC	3/8" UNC
F4	1" SAE 3000 psi/UNC	3/8" UNC

# FMP 320



FMP 320 length 4



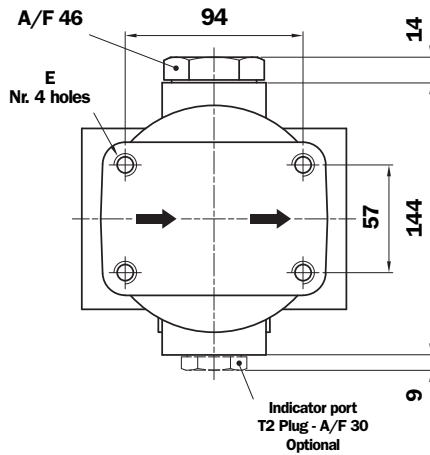
Style P01

Standard maintenance from head.

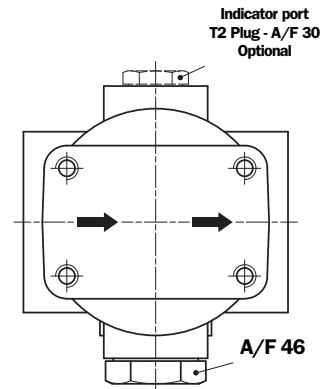
Style P02

Maintenance option from housing base.

Standard - Bypass side B



Optional - Bypass side C



## FMP 320

Length Filter	H mm
1	263
2	386
3	518
4	671

## Thread connections

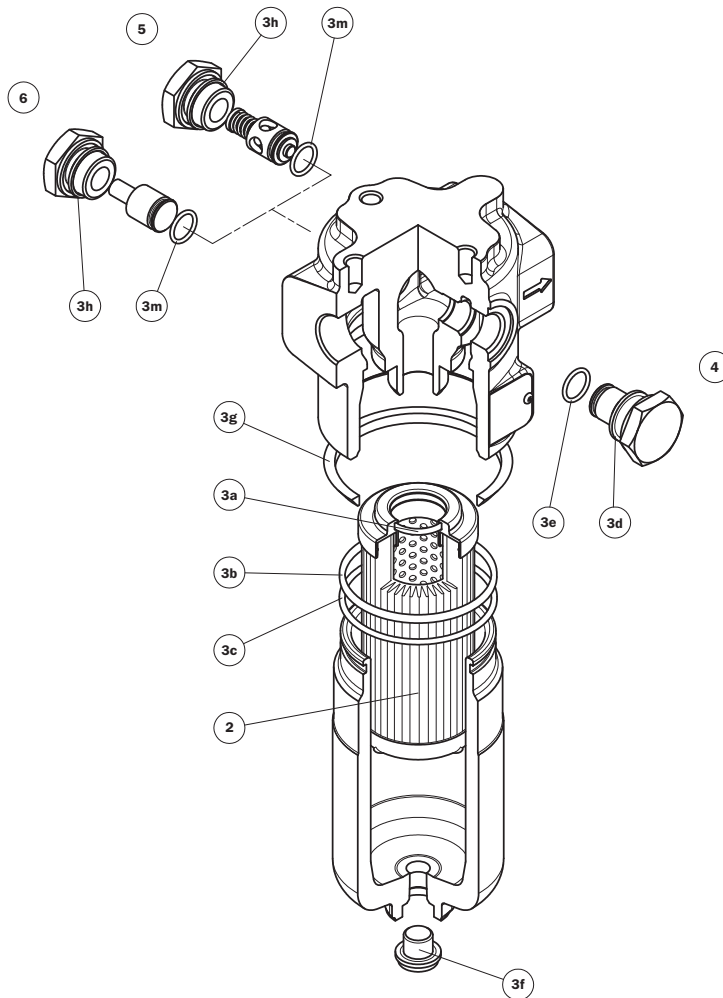
Type	Size	E Depth 15 mm
G1	G 1 1/4"	M12
G2	G 1 1/2"	M12
G3	1 1/4" NPT	1/2" UNC
G4	1 1/2" NPT	1/2" UNC
G5	SAE 20 - 1 5/8" - 12 UN	1/2" UNC
G6	SAE 24 - 1 7/8" - 12 UN	1/2" UNC

## Flange connections

Type	Size	E Depth 15 mm
F1	1 1/4" SAE 3000 psi/M	M12
F2	1 1/2" SAE 3000 psi/M	M12
F3	1 1/4" SAE 3000 psi/UNC	1/2" UNC
F4	1 1/2" SAE 3000 psi/UNC	1/2" UNC

N.B.: 2" SAE 3000 see page 33 filter assembly FHP 500

# Spare parts



Item	Description	Q.ty	FILTER Series					
			FMP 065		FMP 135		FMP 320	
1	Filter assembly	1	See order table					
2	Filter element	1	See order table					
3	Seal Kit	1	NBR 02050267	FPM 02050278	NBR 02050293	FPM 02050294	NBR 02050274	FPM 02050285
3a	Filter element seal	1	O-R 4100 Ø 24,99 x 3,53		O-R 3106 Ø 26,65 x 2,62		O-R 144 Ø 39,69 x 3,53	
3b	Bowl seal	1	O-R 159 Ø 55,56 x 3,53		O-R 3256 Ø 64,77 x 2,62		2 pcs	O-R 3350 Ø 88,57 x 2,62
3c	Bowl 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
3d	Gasket	1	01030058 (HNBR)	01030046 (FPM)	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		O-R 2050 Ø 12,42 x 1,78	
3f	Drain plug	2	-		-		G 3/8" with bonded seal	
3g	Protective seal	1	01026521		01026509		01026510	
3h	Bp or Non-Bp seal	1	Bonded seal G 1/2"		Bonded seal G 1/2"		O-R 3143 (90 Sh A) Ø 36,14 x 2,62	
3m	Bp or Non-Bp seal	1	O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78		O-R 3106 Ø 26,65 x 2,62	
4	Indicator connection plug	1	T2H	T2V	T2H	T2V	T2H	T2V
5	Bypass assembly	1	02001312	02001385	02001312	02001385	02001396	02001397
6	Non-bypass assmby	1	02001314	02001386	02001314	02001386	02001398	02001399

# Ordering information FMP

## Filter assembly FMP

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8a</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Example: FMP</b>	<b>065</b>	<b>2</b>	<b>B</b>	<b>A</b>	<b>G1</b>	<b>A03</b>	<b>N</b>	<b>P01</b>

## Filter element HP

	<b>1</b>	<b>2</b>	<b>6</b>	<b>4</b>	<b>7</b>	<b>8b</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Example: HP</b>	<b>065</b>	<b>2</b>	<b>A03</b>	<b>A</b>	<b>N</b>	<b>P01</b>

### 1 - Style

Filter	Filter element
<b>065</b>	<b>065</b>
<b>135</b>	<b>135</b>
<b>320</b>	<b>320</b>

### 2 - Filter length

<b>065</b>	<b>1</b>	<b>2</b>	<b>3</b>	
<b>135</b>	<b>1</b>	<b>2</b>	<b>3</b>	
<b>320</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>

### 3 - Valves

<b>S</b>	Without bypass side B - Optional
<b>B</b>	With bypass side B - Standard
<b>C</b>	With bypass side C - Optional
<b>E</b>	Without bypass side C - Optional
<b>T</b>	Without bypass + check valve*
<b>D</b>	With bypass side B + check valve*

\*Reduced cross-section oilways

### 4 - Filter seals

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

### 5 - Connections

#### Threaded

#### FMP 065

Type	Size
<b>G1</b>	G 1/2"
<b>G2</b>	G 3/4"
<b>G3</b>	1/2" NPT
<b>G4</b>	3/4" NPT
<b>G5</b>	SAE 8 - 3/4" - 16 UNF
<b>G6</b>	SAE 12 - 1 1/16" - 12 UN

#### FMP 135

Type	Size
<b>G1</b>	G 3/4"
<b>G2</b>	G 1"
<b>G3</b>	3/4" NPT
<b>G4</b>	1" NPT
<b>G5</b>	SAE 12 - 1 1/16" - 12 UN
<b>G6</b>	SAE 16 - 1.5/16" - 12 UN

#### FMP 320

Type	Size
<b>G1</b>	G 1 1/4"
<b>G2</b>	G 1 1/2"
<b>G3</b>	1 1/4" NPT
<b>G4</b>	1 1/2" NPT
<b>G5</b>	SAE 20 - 1.5/8" - 12 UN
<b>G6</b>	SAE 24 - 1 7/8" - 12 UN

#### Flanged

#### FMP 135

Type	Size
<b>F1</b>	3/4" SAE 3000 psi/M
<b>F2</b>	1" SAE 3000 psi/M
<b>F3</b>	3/4" SAE 3000 psi/UNC
<b>F4</b>	1" SAE 3000 psi/UNC

#### FMP 320

Type	Size
<b>F1</b>	1 1/4" SAE 3000 psi/M
<b>F2</b>	1 1/2" SAE 3000 psi/M
<b>F3</b>	1 1/4" SAE 3000 psi/UNC
<b>F4</b>	1 1/2" SAE 3000 psi/UNC

N.B.: 2" SAE 3000 see page 33 filter assembly FHP 500

### 6 - Filter element

<b>A03</b>	Inorganic microfibre 3 µ	Absolute filtration Inorganic Microfibre βx (c) ≥ 1000
<b>A06</b>	Inorganic microfibre 6 µ	
<b>A10</b>	Inorganic microfibre 10 µ	
<b>A16</b>	Inorganic microfibre 16 µ	
<b>A25</b>	Inorganic microfibre 25 µ	
<b>M25</b>	Wire mesh 25 µ	Nominal Filtration Metal mesh

### 7 - Max filter element differential pressure

<b>N</b>	Δp 20 bar
<b>R</b>	Δp 20 bar (filter with reverse flow + bypass)
<b>H</b>	Δp 210 bar
<b>S</b>	Δp 210 bar (filter with reverse flow)

### 8 - Option

#### a - Filter

<b>P01</b>	MP Filtri standard
<b>P02</b>	Maintenance from housing base (only for FMP 320 - 4)
<b>Pxx</b>	Customer request

#### b - Filter element

<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customer request

#### \* Indicator plug:

Steel plug T2 has to be ordered separately.

#### Code

<b>T2H</b>	Seal NBR
<b>T2V</b>	Seal FPM

**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

The data in this publication are purely guideline. MP Filtri reserves the right to make changes to the models described herein at any time it deems fit in relation to technical or commercial requirements. The colours of the products shown on the cover are purely guideline. Copyright. All rights reserved.