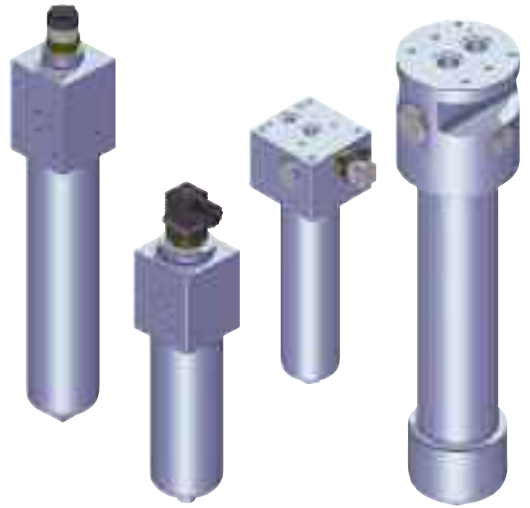


# FHM

**Maximum pressure 320 bar**  
**Flow rates to 450 l/min**



## Technical data

### Filter housing (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel
- 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: 20 bar
- Microfibre filter elements series H: 210 bar (excluded FHM 050 - 500)
- Microfibre filter elements series S: 210 bar (only for FHM 050 - 500)
- 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

### FHM FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

### Weights (kg)

Length	1	2	3	4	5
• FHM 006	2.17	-	-	-	-
• FHM 007	-	4.74	5.95	-	-
• FHM 010	-	4.74	5.95	-	-
• FHM 050	5.31	5.68	6.09	6.56	7.74
• FHM 065	5.47	5.83	7.04	-	-
• FHM 135	8.78	10.38	11.43	-	-
• FHM 320	19.8	21.93	24.22	26.70	-
• FHM 500	35	39.17	42.69	54.70	60.50

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

Length	1	2	3	4	5
• FHM 006	0.12	-	-	-	-
• FHM 007	-	0.30	0.50	-	-
• FHM 010	-	0.30	0.50	-	-
• FHM 050	0.29	0.38	0.48	0.60	0.89
• FHM 065	0.27	0.34	0.56	-	-
• FHM 135	0.49	0.82	1.03	-	-
• FHM 320	1.04	1.76	2.53	3.36	-
• FHM 500	1.63	2.35	2.96	5.11	6.44

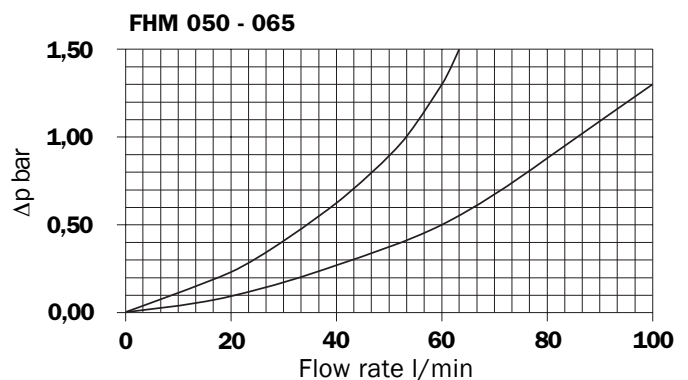
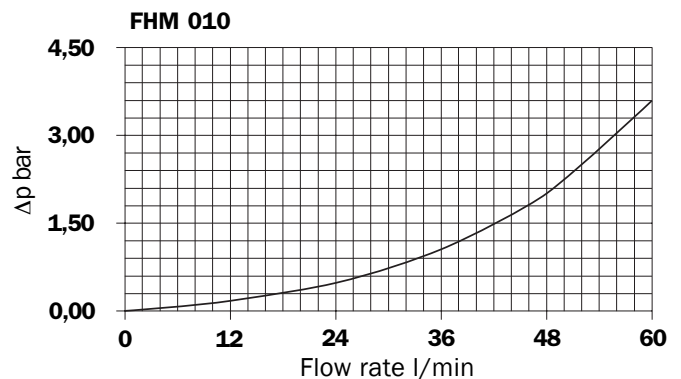
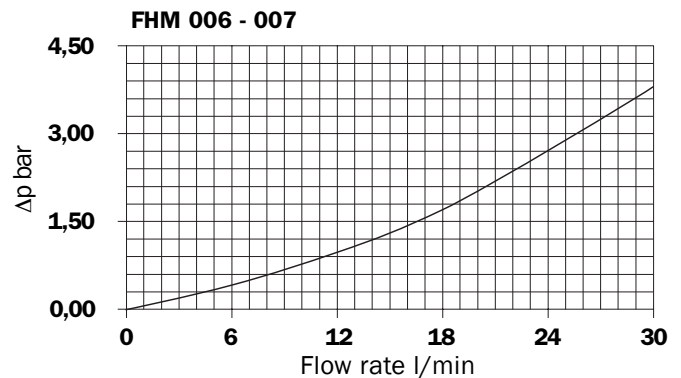
### Connections

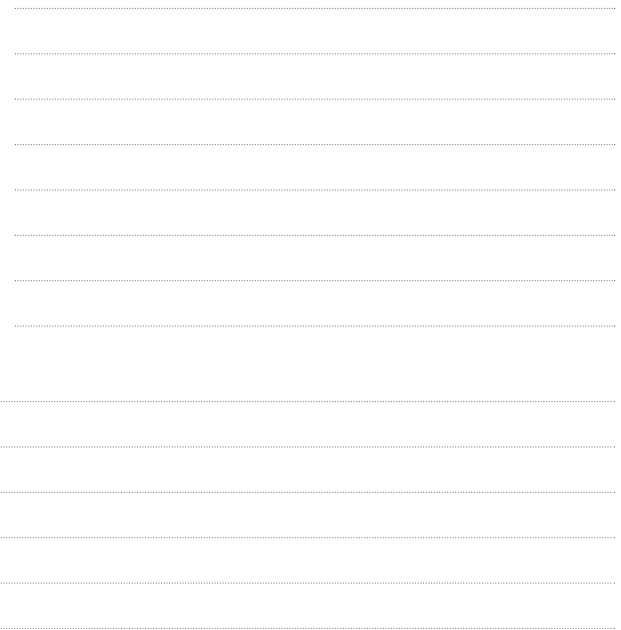
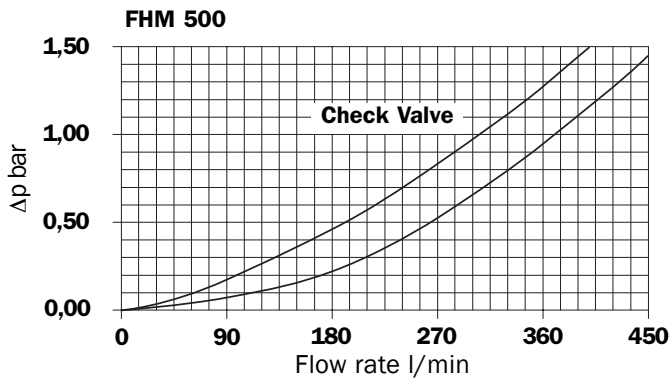
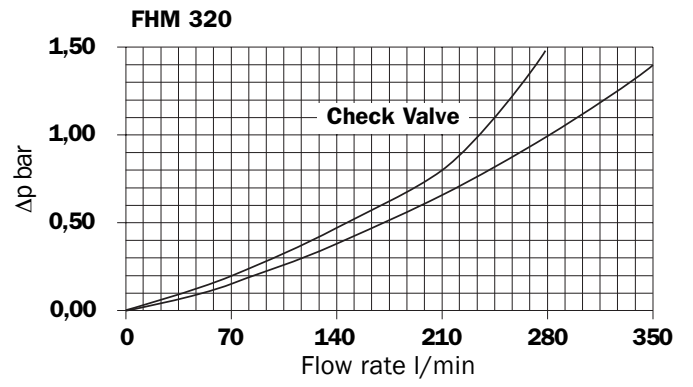
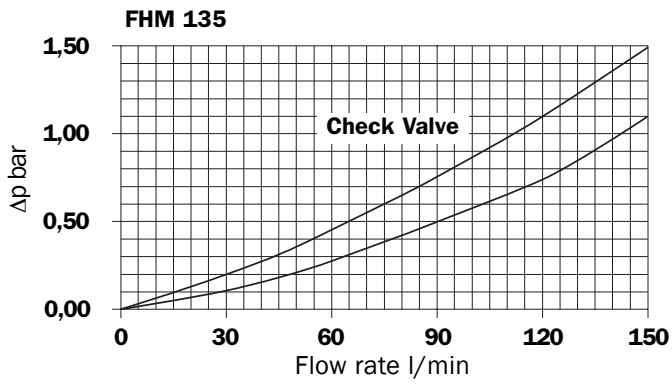
- FHM: In-line Inlet/Outlet

### 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.

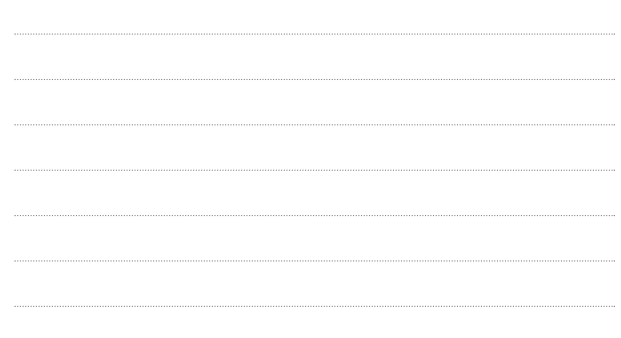
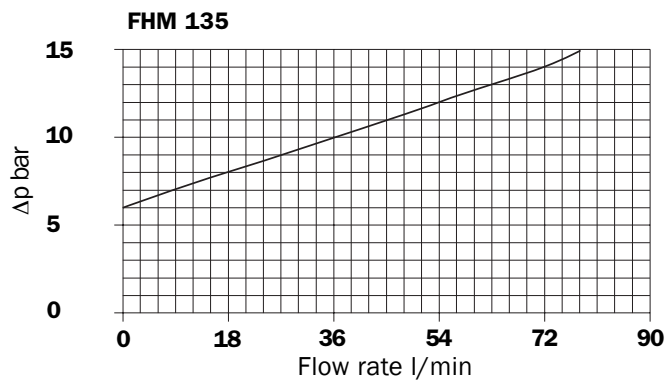
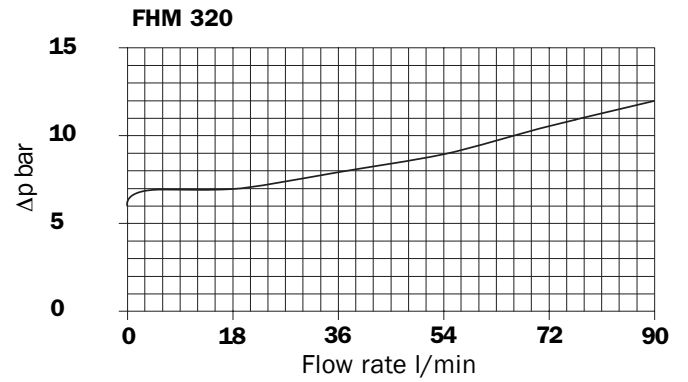
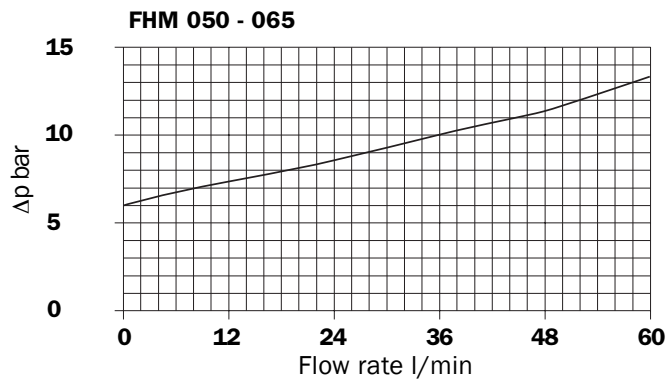
$\Delta p$  varies proportionally with density.





**Valves**

**Bypass valve pressure drop**



**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>.

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 007</b>	2	12	13	14	15	16
	3	13	14	15	16	17

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

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FHM 050</b>	1	38	39	65	67	80	100
	2	46	50	68	75	88	102
	3	56	58	75	80	93	103
	4	67	70	84	85	95	104
	5	81	82	93	95	100	105

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

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FHM 065</b>	1	23	30	47	53	71	102
	2	30	44	58	63	80	103
	3	51	59	78	82	92	105

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

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FHM 135</b>	1	60	65	98	104	130	149
	2	90	96	117	119	154	165
	3	118	119	143	145	156	167

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

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FHM 320</b>	1	111	121	187	217	252	310
	2	200	215	280	292	320	328
	3	245	267	311	320	325	332
	4	266	280	314	325	336	340

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

**Filtration**

	Length	A03	A06	A10	A16	A25	M25
<b>FHM 500</b>	1	240	268	320	330	350	410
	2	275	298	345	350	375	420
	3	325	339	382	385	400	430
	4	348	370	395	400	410	440
	5	374	383	405	410	425	450

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 006</b>	1	8	9	12	13	14

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 010</b>	2	19	21	27	28	31
	3	26	27	31	32	33

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 050</b>	1	28	36	50	52	62
	2	41	44	63	70	85
	3	51	53	71	77	90
	4	62	65	80	81	92
	5	73	74	83	88	97

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 065</b>	1	22	23	43	50	67
	2	30	34	56	62	75
	3	51	57	76	81	91

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 135</b>	1	45	51	83	85	122
	2	78	91	109	110	134
	3	102	111	130	136	146

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

**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 320</b>	1	97	102	156	162	228
	2	162	181	236	240	282
	3	206	233	275	280	305
	4	232	246	280	284	310

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

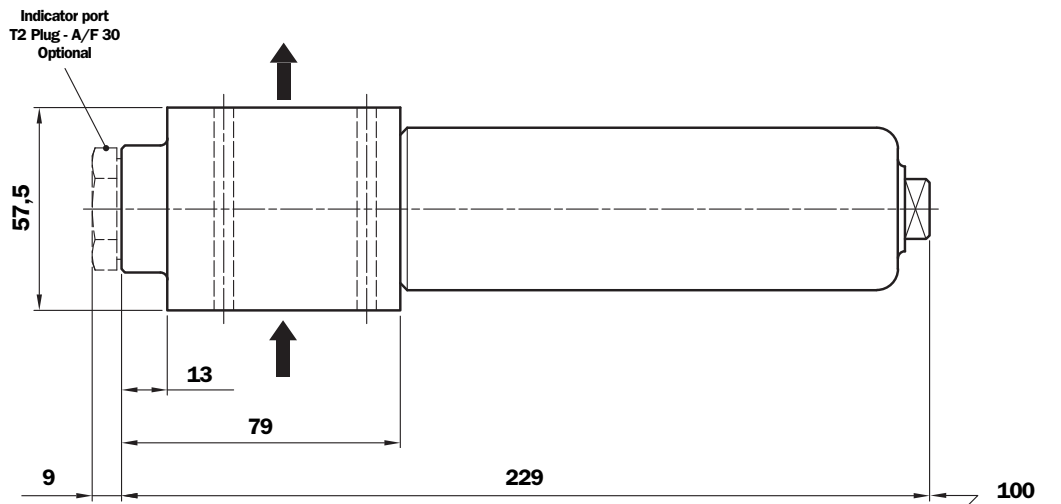
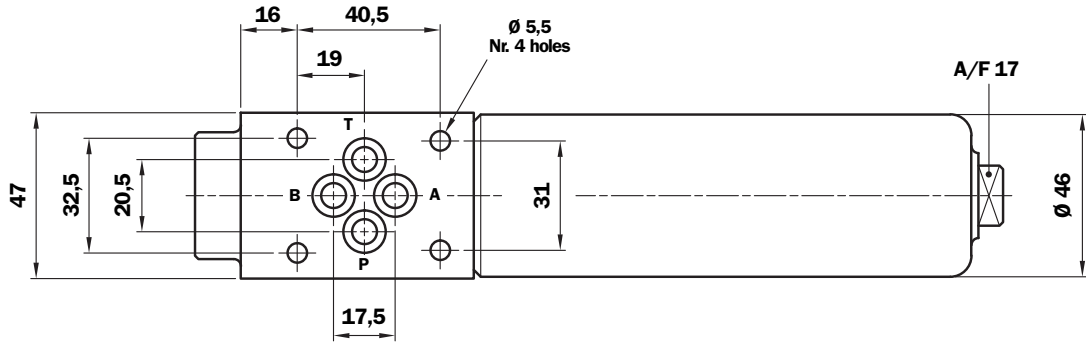
**Filtration**

	Length	A03	A06	A10	A16	A25
<b>FHM 500</b>	1	140	150	238	240	300
	2	210	235	298	305	325
	3	258	265	325	330	360
	4	287	315	360	365	390
	5	340	347	385	390	410

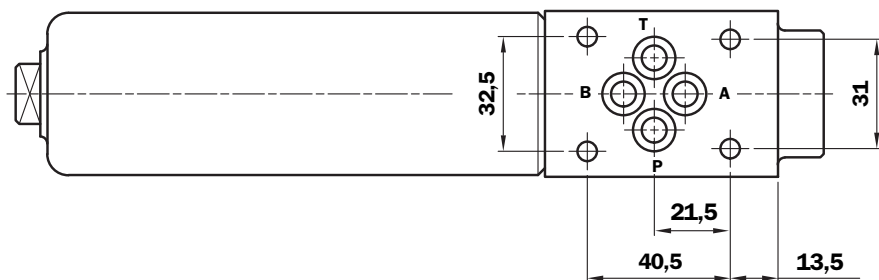
**Serie H - Flow rate l/min**

# FHM 006

## G1 - Housing side "A"



## G2 - Housing side "B"

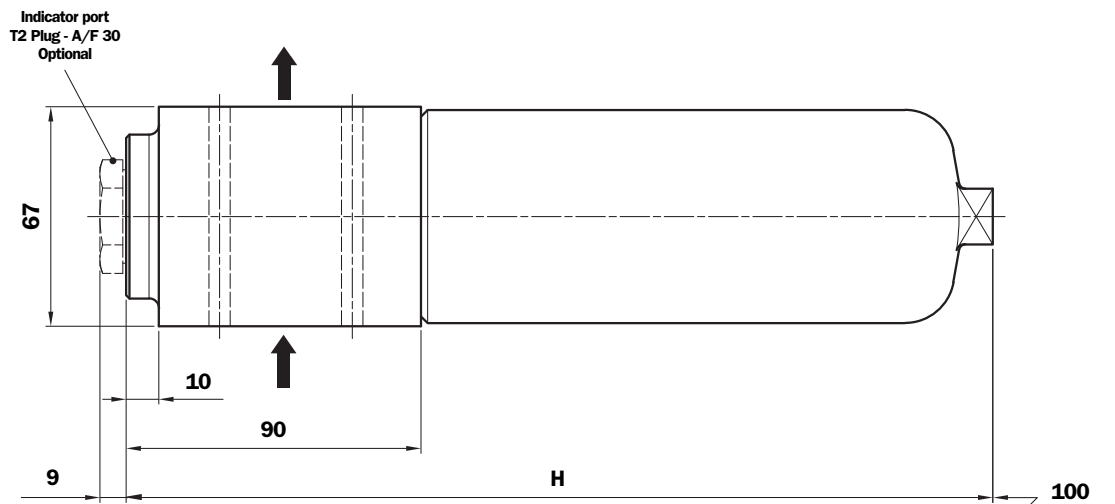
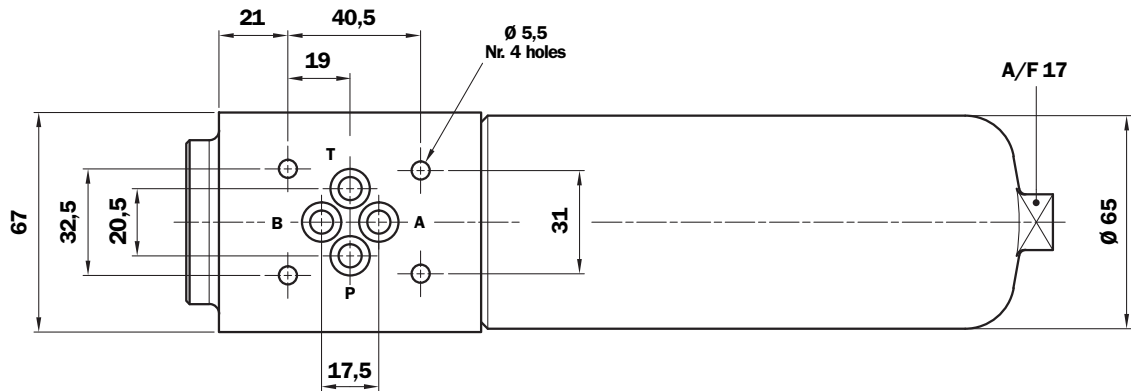


### Manifold connections

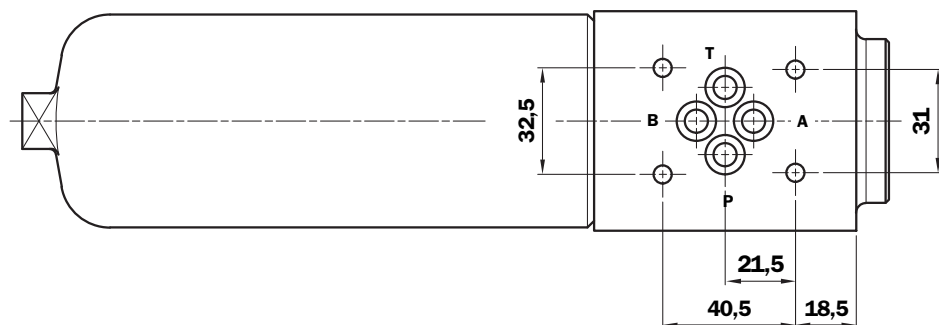
Type	Size
G1	Housing side "A"
G2	Housing side "B"

# FHM 007

## G1 - Housing side "A"



## G2 - Housing side "B"



### FHM 007

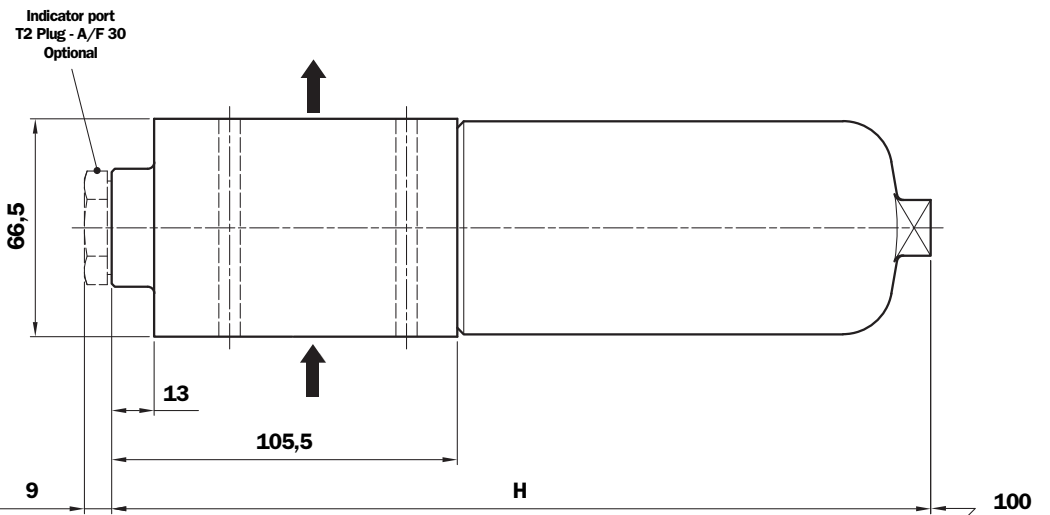
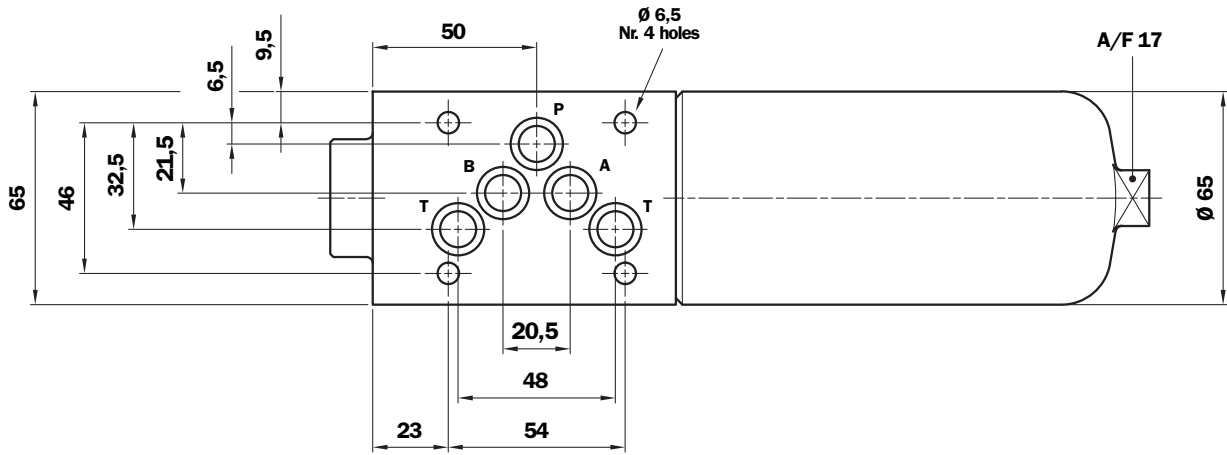
Length Filter	H mm
2	265
3	366

### Manifold connections

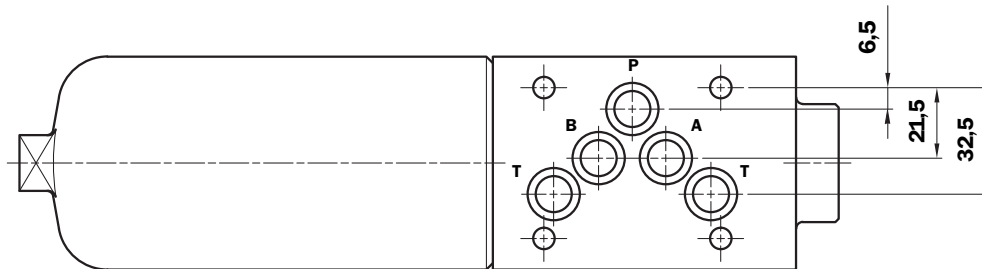
Type	Size
G1	Housing side "A"
G2	Housing side "B"

# FHM 010

## G1 - Housing side "A"



## G2 - Housing side "B"



### FHM 010

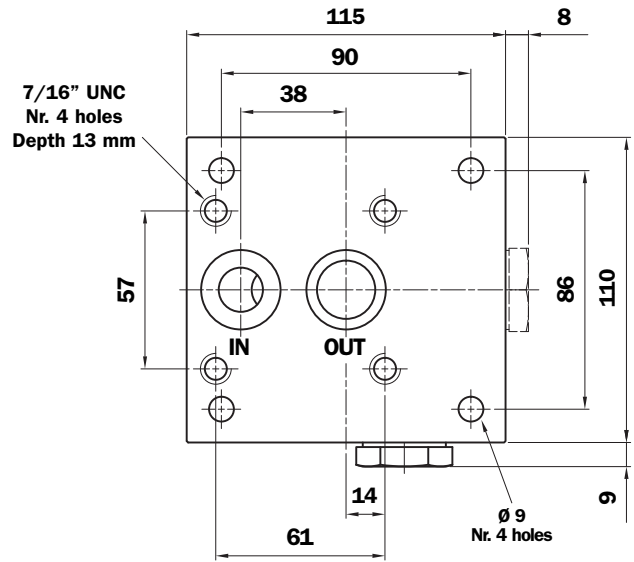
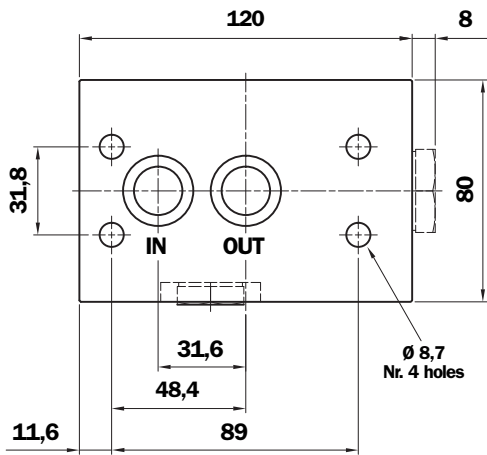
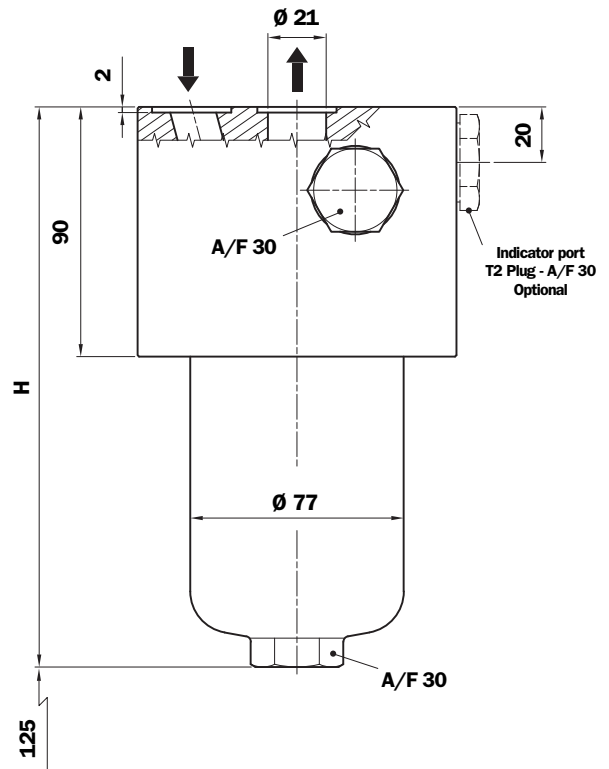
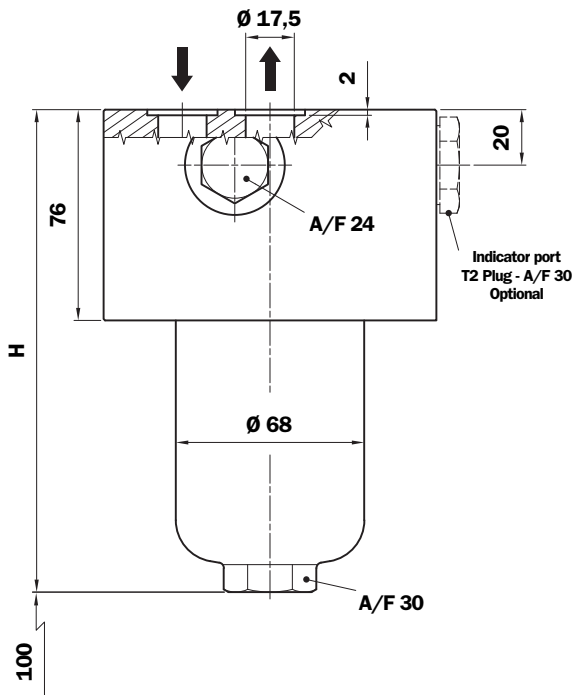
Length Filter	H mm
2	280
3	381

### Manifold connections

Type	Size
G1	Housing side "A"
G2	Housing side "B"

# FHM 050 - 065

# FHM 135



## FHM 050

Length Filter	H mm
1	154
2	191
3	233
4	281
5	403

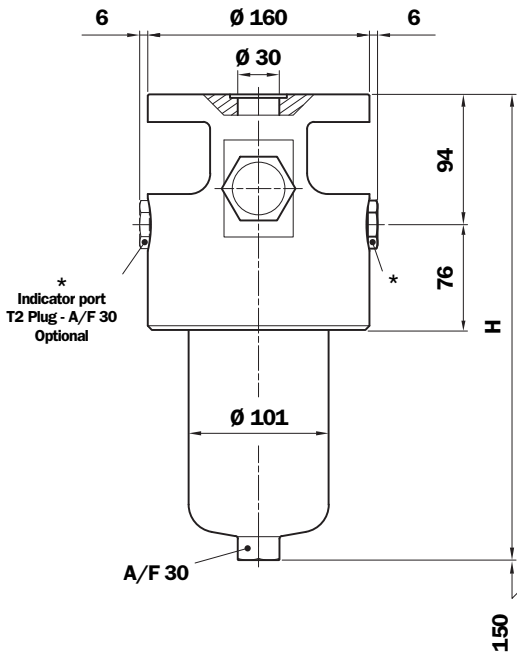
## FHM 065

Length Filter	H mm
1	162
2	193
3	295

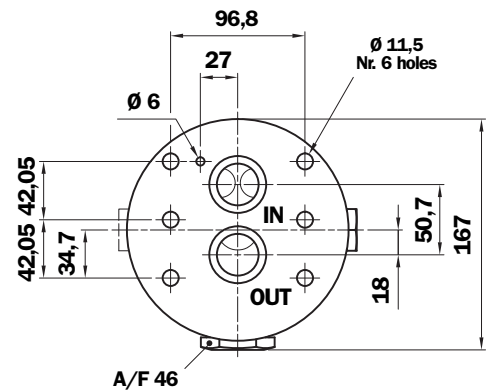
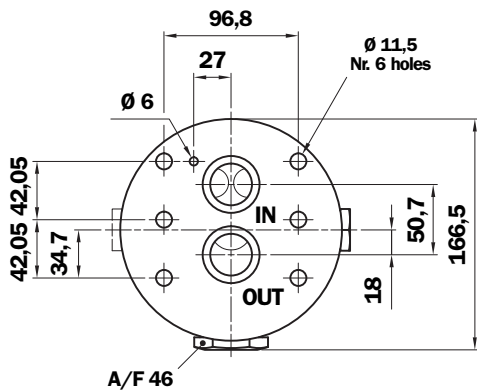
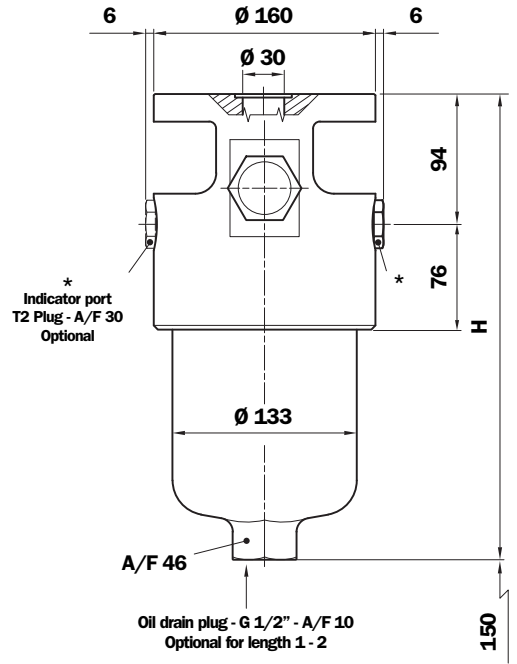
## FHM 135

Length Filter	H mm
1	202
2	315
3	390

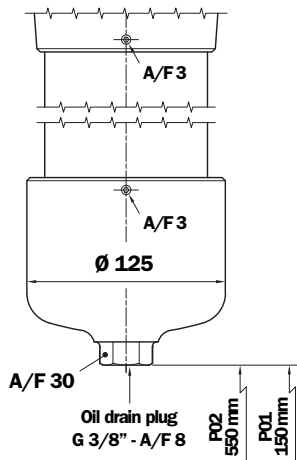
# FHM 320



# FHM 500

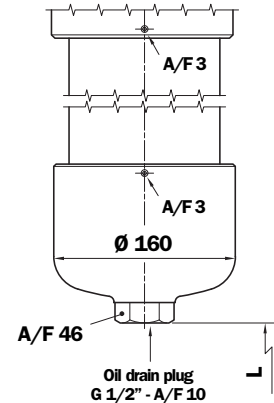


FHM 320 length 4



Style P01  
Standard maintenance from head.  
Style P02  
Maintenance option from housing base.

FHM 500 length 4 - 5



## FHM 320

Length Filter	H mm
1	293
2	416
3	548
4	702

## FHM 500

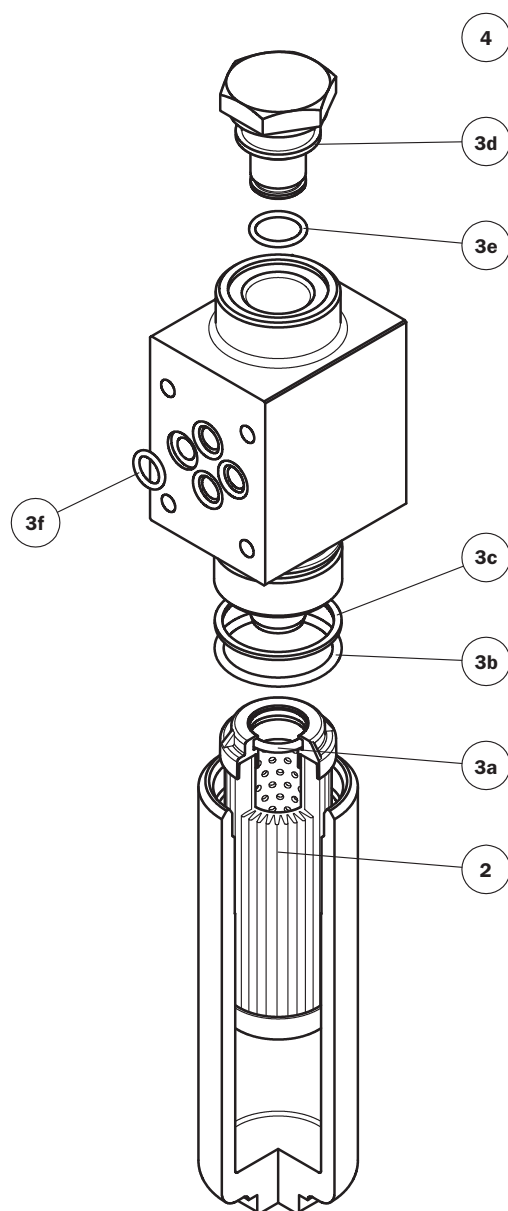
Length Filter	H mm
1	355
2	445
3	521
4	679
5	845

Style P01	
Filter length	L (mm)
4-5	150

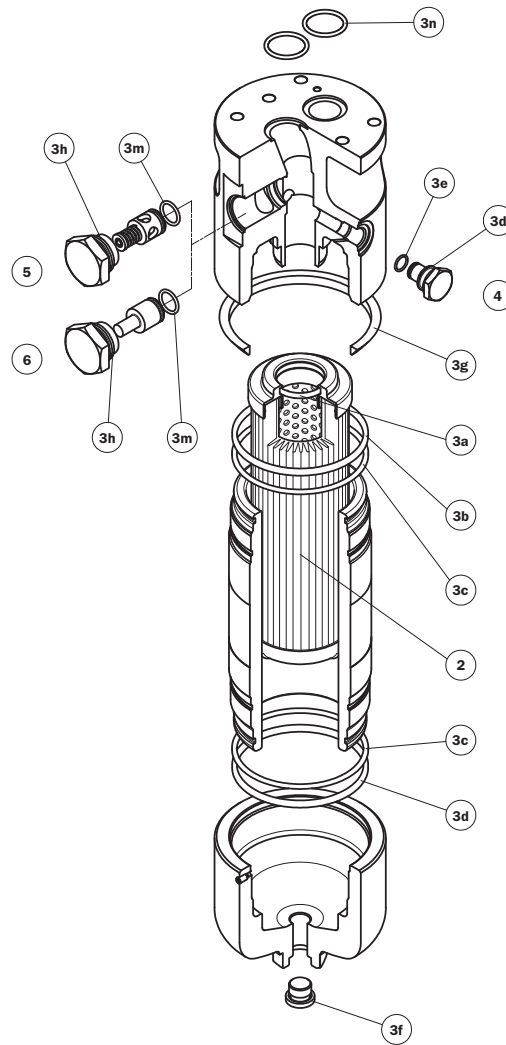
Style P02	
Filter length	L (mm)
4	480
5	650



# Spare parts



Item	Description	Q.ty	FILTER Series					
			FHM 006		FHM 007		FHM 010	
1	Filter assembly	1	See order table					
2	Filter element	1	See order table					
3	Seal Kit	1	NBR 02050324	FPM 02050325	NBR 02050600	FPM 02050601	NBR 02050320	FPM 02050321
3a	Filter element seal	1	O-R 121 Ø 15,88 x 2,62		O-R 4100 Ø 24,99 x 3,53		O-R 4100 Ø 24,99 x 3,53	
3b	Bowl seal	1	O-R 3125 Ø 31,22 x 2,62		O-R 3187 Ø 47,29 x 2,62		O-R 3187 Ø 47,29 x 2,62	
3c	Bowl anti-extrusion ring	1	Parbak 124 Ø 32,21 x 2,18		Parbak 134 Ø 48,08 x 2,18		Parbak 134 Ø 48,08 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	Head seal	1	4 pcs	O-R 108 Ø 8,73 x 1,78	4 pcs	O-R 108 Ø 8,73 x 1,78	5 pcs	O-R 2050 Ø 12,42 x 1,78
4	Indicator connection plug	1	T2H	T2V	T2H	T2V	T2H	T2V



Item	Description	Q.ty	FILTER Series									
			FHM 050		FHM 065		FHM 135		FHM 320		FHM 500	
1	Filter assembly	1	See order table									
2	Filter element	1	See order table									
3	Seal kit	1	NBR 02050410	FPM 02050411	NBR 02050268	FPM 02050279	NBR 02050271	FPM 02050282	NBR 02050275	FPM 02050286	NBR 02050332	FPM 02050333
3a	Filter element seal	1	O-R 3093 Ø 23,67 x 2,62		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		O-R 153 Ø 49,21 x 3,53	
3b	Bowl seal	1	O-R 3225 Ø 56,82 x 2,62		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		2 pcs. O-R 4462 Ø 117,10 x 3,53	
3c	Bowl anti-extrusion ring	1	Parbak 139 Ø 56,03 x 2,18		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		2 pcs. Parbak 247 Ø 117,63 x 3	
3d	Gasket	1	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)	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		O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78	
3f	Drain plug	1	-		-		-		G 3/8" with bonded seal		G 1/2" with bonded seal	
3g	Protective seal	1	01026521		01026521		01026509		01026510		-	
3h	Bp or no Bp O-Ring	1	O-R 121 (90 Sh A) Ø 15,88 x 2,62		O-R 121 (90 Sh A) Ø 15,88 x 2,62		O-R 3087 (90 Sh A) Ø 21,89 x 2,62		O-R 3143 (90 Sh A) Ø 36,14 x 2,62		O-R 3143 (90 Sh A) Ø 36,14 x 2,62	
3m	Bp or no Bp O-Ring	1	O-R 2031 Ø 7,66 x 1,78		O-R 2031 Ø 7,66 x 1,78		O-R 2037 Ø 9,25 x 1,78		O-R 3106 Ø 26,65 x 2,62		O-R 3106 Ø 26,65 x 2,62	
3n	Protective seal	2	O-R 3081 Ø 20,24 x 2,62		O-R 3081 Ø 20,24 x 2,628		O-R 3093 Ø 23,67 x 2,62		O-R 4137 Ø 34,52 x 3,53		O-R 4137 Ø 34,52 x 3,53	
4	Indicator connection plug	1	T2H	T2V	T2H	T2V	T2H	T2V	T2H	T2V	T2H	T2V
5	Bypass assembly	1	NBR 02001400	FPM 02001401	NBR 02001400	FPM 02001401	NBR 02001404	FPM 02001405	NBR 02001408	FPM 02001409	NBR 02001408	FPM 02001409
6	Non-Bypass assembly	1	NBR 02001402	FPM 02001403	NBR 02001402	FPM 02001403	NBR 02001406	FPM 02001407	NBR 02001410	FPM 02001411	NBR 02001410	FPM 02001411

# Ordering information FHM

## Filter assembly FHM

	<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: FHM</b>	<b>050</b>	<b>1</b>	<b>S</b>	<b>A</b>	<b>F1</b>	<b>A03</b>	<b>S</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>050</b>	<b>1</b>	<b>A03</b>	<b>A</b>	<b>S</b>	<b>P01</b>

### 1 - Style

Filter	Filter element
<b>006</b>	⌘ See below
<b>007</b>	<b>065</b>
<b>010</b>	<b>065</b>
<b>050</b>	<b>050</b>
<b>065</b>	<b>065</b>
<b>135</b>	<b>135</b>
<b>320</b>	<b>320</b>
<b>500</b>	<b>500</b>

### 2 - Filter length

<b>006</b>	<b>1</b>				
<b>007</b>		<b>2</b>	<b>3</b>		
<b>010</b>		<b>2</b>	<b>3</b>		
<b>050</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<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>	
<b>500</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

### 3 - Valves

<b>S</b>	Without bypass
<b>B</b>	With bypass
<b>T</b>	Without bypass + check valve*
<b>D</b>	With bypass + check valve*

\*Reduced cross-section oilways

N.B. Style 006 - 007 - 010 are available only in "S" version without bypass.

### 4 - Filter seals

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

### 5 - Connections

#### Manifold

Type	Size FHM 006 - 007 - 010
<b>G1</b>	Housing side "A"
<b>G2</b>	Housing side "B"

Type	Size FHM 050 - 065 - 135 - 320 - 500
<b>F1</b>	-

### 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 (excluded FHM 006 - 007 - 010)
<b>H</b>	Δp 210 bar
<b>S</b>	Δp 210 bar (only for FHM 050 - 500)

### 8 - Option

#### a - Filter

<b>P01</b>	MP Filtri standard
<b>P02</b>	Maintenance from base of housing (only FHM 320 length 4 - FHM 500 length 4/5)
<b>Pxx</b>	Customer request

#### b - Filter element

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

#### ⌘ Filter element for FHM 006:

- HP 011 3 A03 x H P01
- HP 011 3 A06 x H P01
- HP 011 3 A10 x H P01
- HP 011 3 A16 x H P01
- HP 011 3 A26 x H P01
- HP 011 3 M25 x H P01

#### "x"= seal

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

#### \* Indicator plug

Phosphated Steel plug T2 has to be ordered separately.

#### Code

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

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