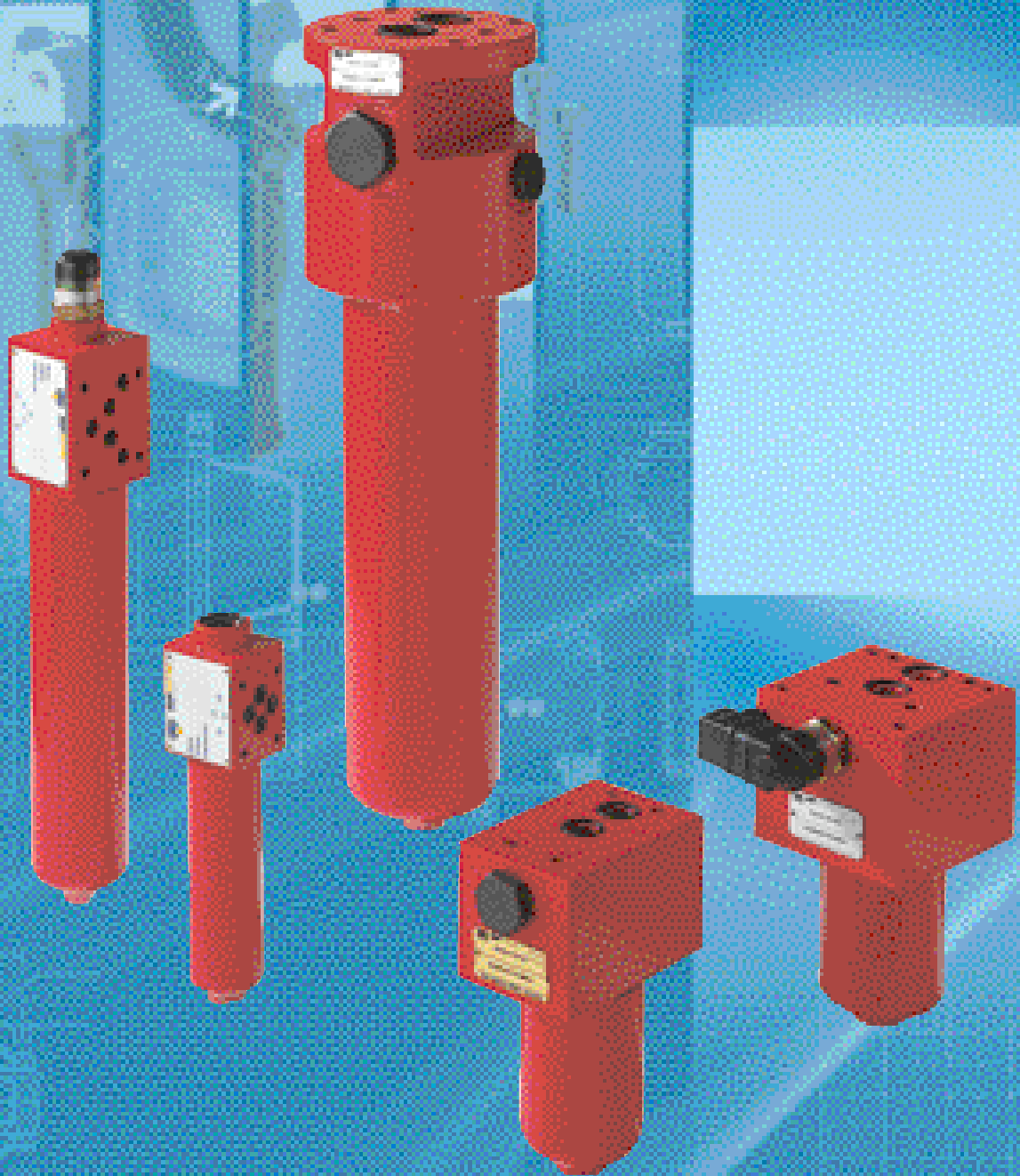
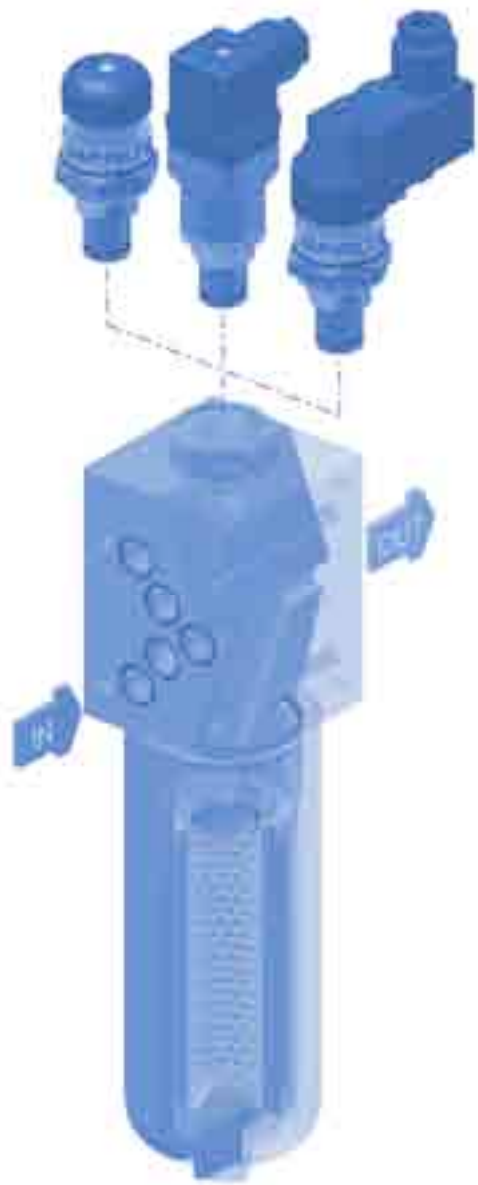


FHM



SERIES **FHM**

**Working pressure
320 bar**



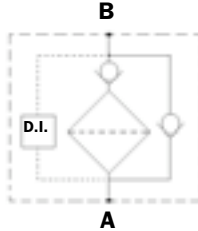
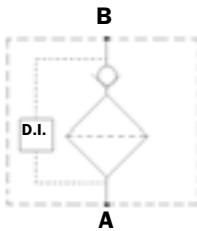
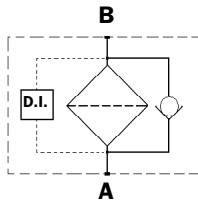
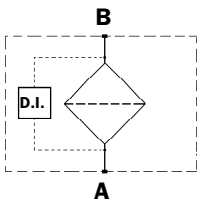
Style S



Style D

Style B

Style T



Technical data

Filter body (Materials)

- Head: Steel for size 006-010-065-135-320
- Housing: Steel (chemical heat treatment)
- Bypass valve: Brass
- Reverse Flow : Steel
- Check valve: Steel

Pressure

- Maximum operating pressure: 320 bar (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

- Elements in microfibre series N : 20 bar
- Elements in microfibre series H : 210 bar
- Elements in stainless steel mesh series N : 20 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	5
• FHM 006		2.5	-	-	-	-
• FHM 010		-	5.5	6	-	-
• FHM 050		5.5	5.8	6.3	8.9	11.5
• FHM 065		5.65	6.2	7.4	-	-
• FHM 135		13	15	16.5	-	-
• FHM 320		21	23.5	26	28.8	-
• FHM 500		35	40	46	58	67

Filter internal volumes (dm³)

	Length	1	2	3	4	5
• FHM 006		0.02	-	-	-	-
• FHM 010		-	0.26	0.35	-	-
• FHM 050		0.32	0.38	0.58	0.65	0.98
• FHM 065		0.34	0.40	0.62	-	-
• FHM 135		0.61	0.95	1.17	-	-
• FHM 320		1.66	1.95	2.72	3.55	-
• FHM 500		2.64	3.43	4.10	5.05	-

Connections

Manifold 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.

Filter Element Area

Filter element in stainless steel mesh

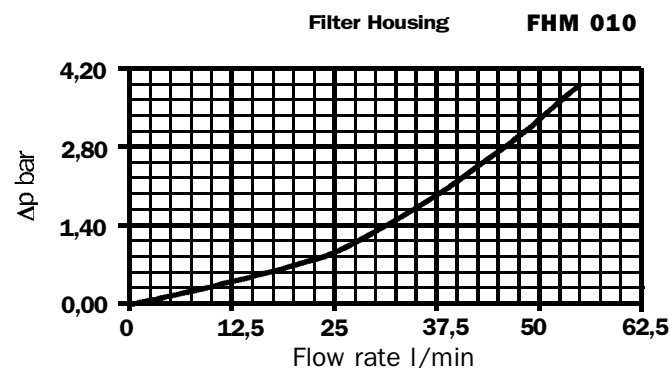
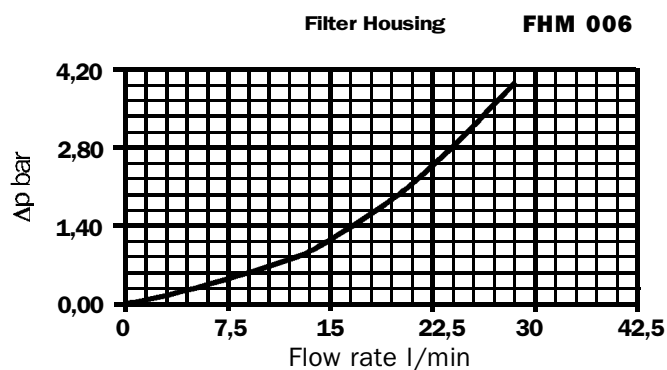
Type	Length				
	1	2	3	4	5
HP020	278				
HP050	450	700	1000	1300	2100
HP065	374	530	1064	-	
HP135	950	2020	2700	-	
HP320	1650	3645	5970	8280	
HP500	3030	4900	6500	9800	13000

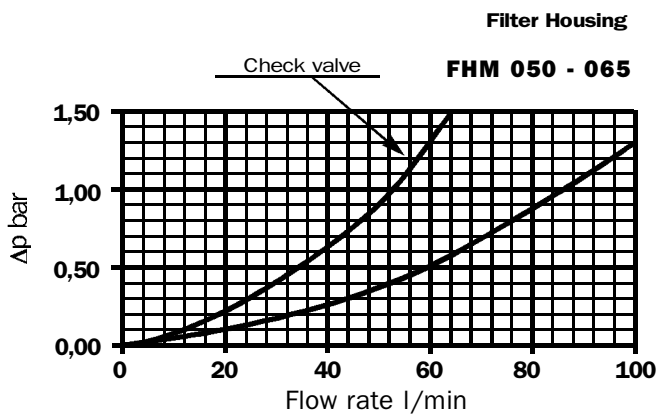
Values expressed in **cm²**

Pressure drops Δp Housing

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

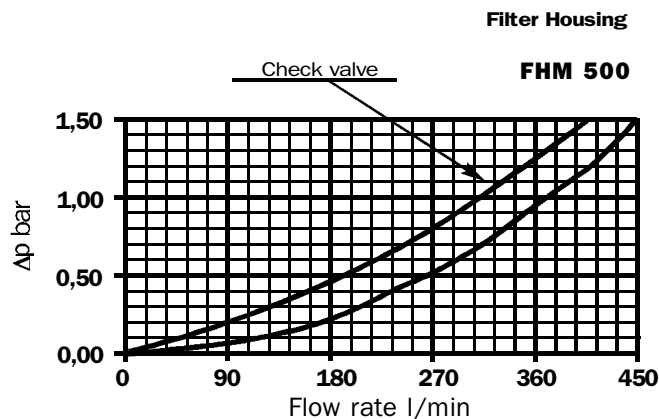
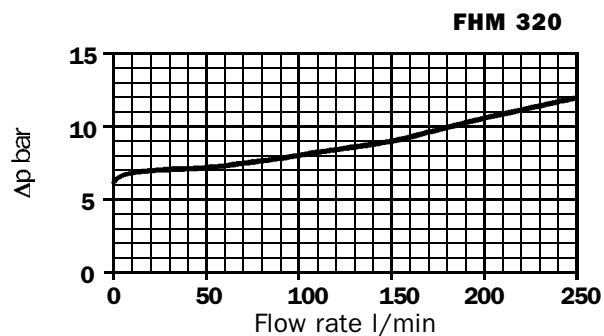
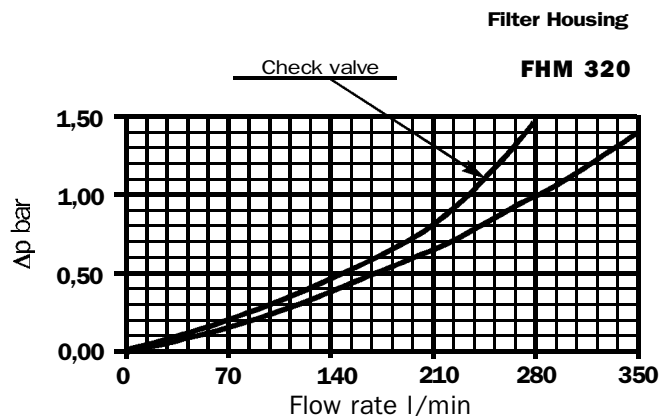
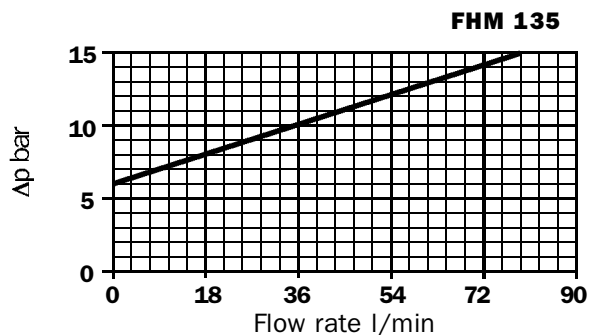
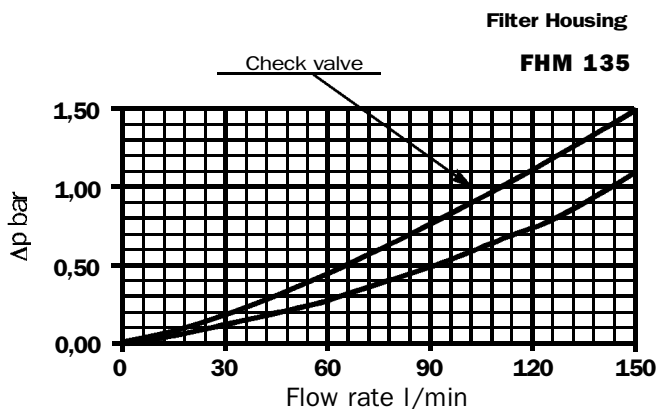
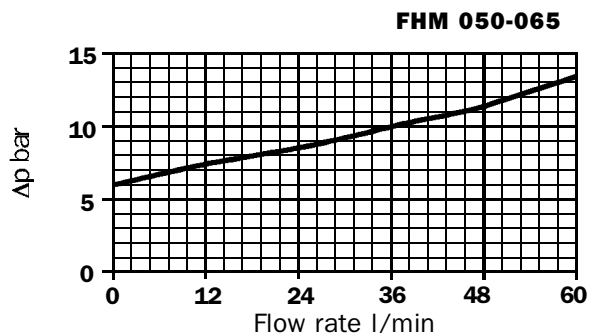
Δp varies proportional with density.





Valves

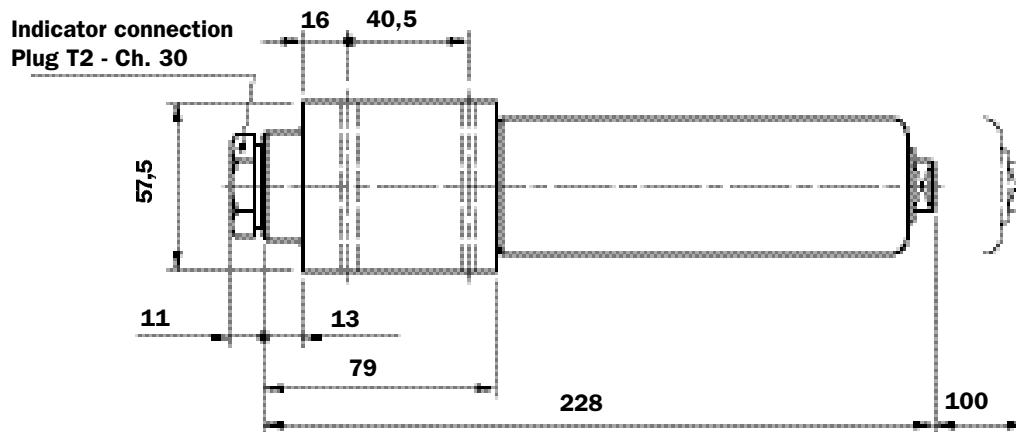
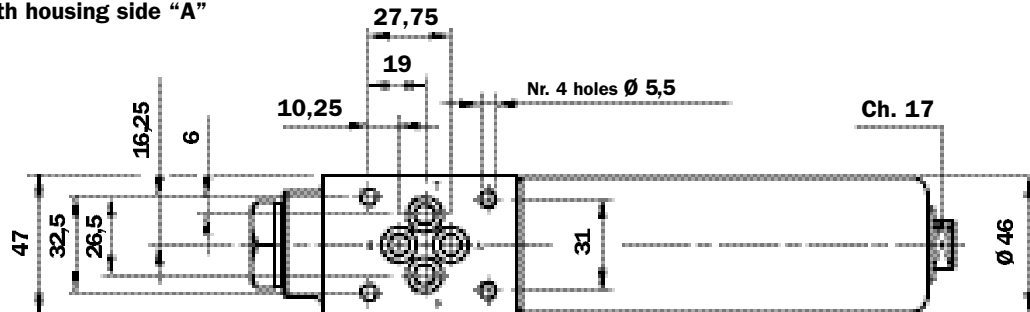
By-pass valve pressure drop



Dimensions

FHM 006

View with housing side "A"



Housing side "A"= G1

Housing side "B"= G2

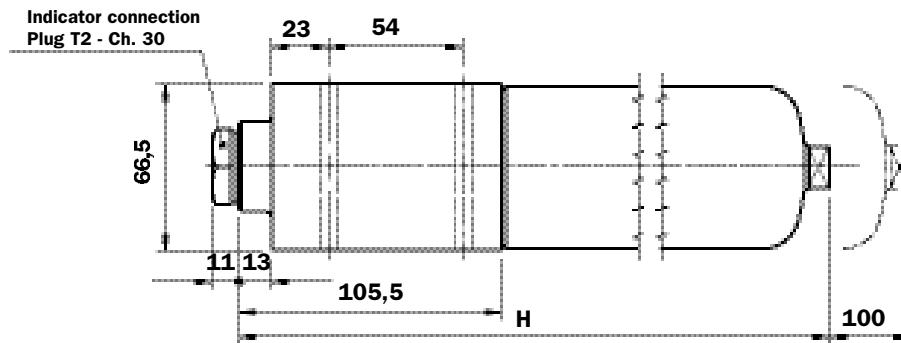
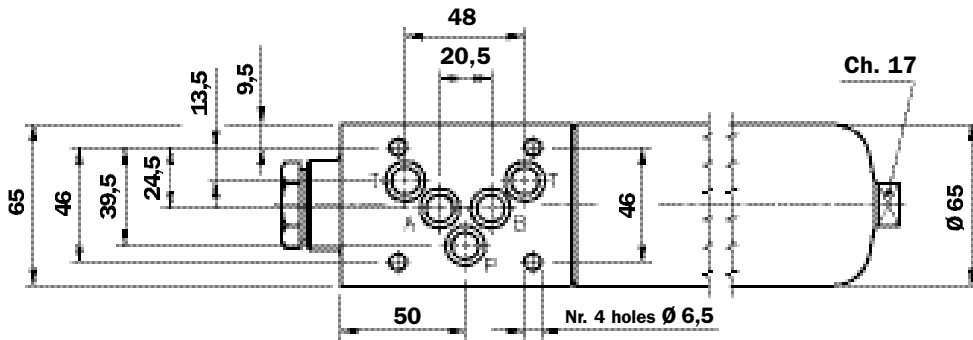
Recommended maximum flow rate

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

Filter element type	Flow rate l/min Series H	Housing Length
A03	9	1
A06	10	
A10	13	
A16	13	
A25	15	
M25	17	

FHM 010

View with housing side "B"



Housing side "A"= G1

Housing side "B"= G2

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.

Filter Length	H mm
2	282
3	383

Filter element type	Flow rate l/min Series H	Housing Length
A03	19	2
A06	21	
A10	25	
A16	26	
A25	29	
M25	-	
A03	24	3
A06	26	
A10	29	
A16	29	
A25	31	
M25	-	

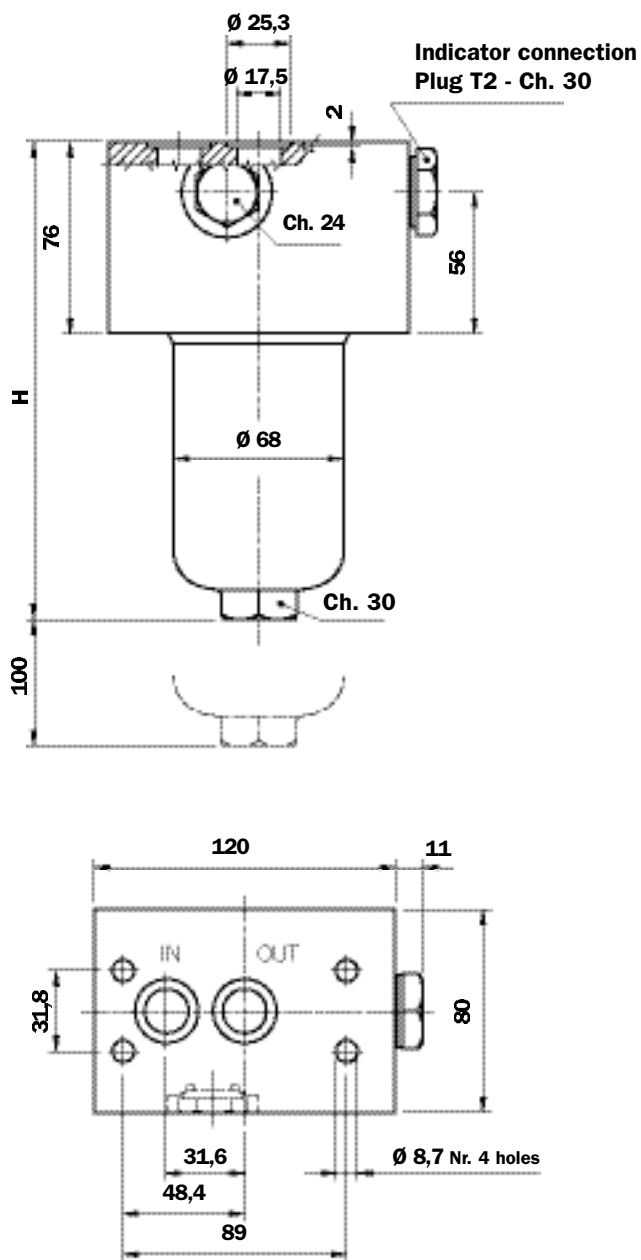
FHM 050

FHM 065

FHM 050

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.



Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	38	28	1
A06	38	36	
A10	65	50	
A16	67	52	
A25	80	62	
M25	102	-	
A03	46	41	2
A06	50	45	
A10	68	62	
A16	75	70	
A25	87	85	
M25	105	-	
A03	56	50	3
A06	60	55	
A10	76	72	
A16	80	78	
A25	92	91	
M25	105	-	
A03	68	62	4
A06	70	65	
A10	85	80	
A16	86	82	
A25	95	92	
M25	105	-	
A03	82	73	5
A06	83	75	
A10	94	84	
A16	95	89	
A25	100	92	
M25	110	-	

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

FHM 065

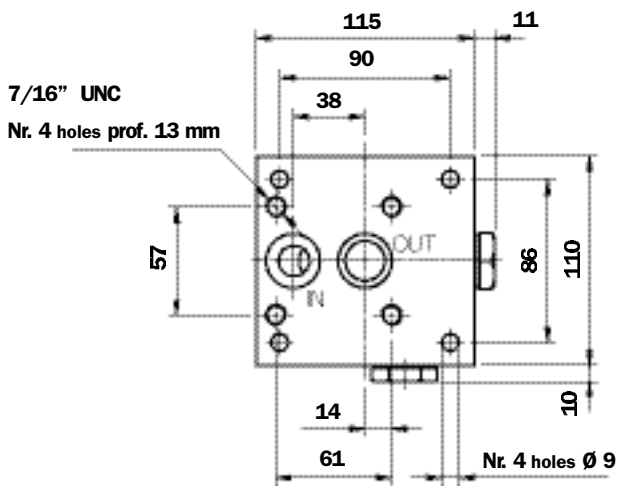
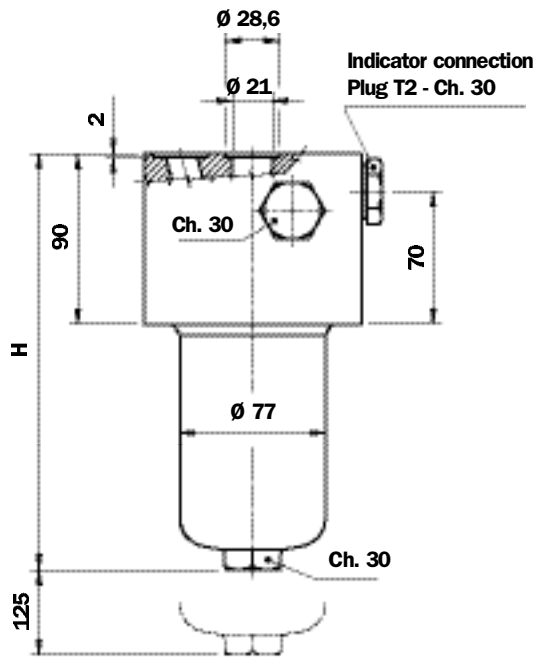
Recommended maximum flow rate

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

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	71	67	
M25	102	-	
A03	30	30	2
A06	45	34	
A10	59	55	
A16	64	62	
A25	80	75	
M25	105	-	
A03	51	51	3
A06	59	57	
A10	78	76	
A16	82	80	
A25	92	91	
M25	107	-	

Filter Length	H mm
1	162
2	193
3	295

FHM 135



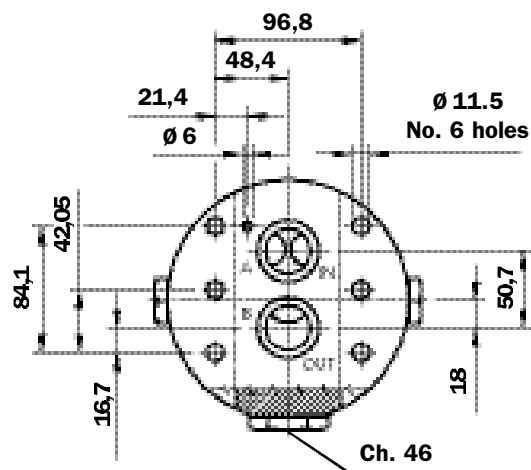
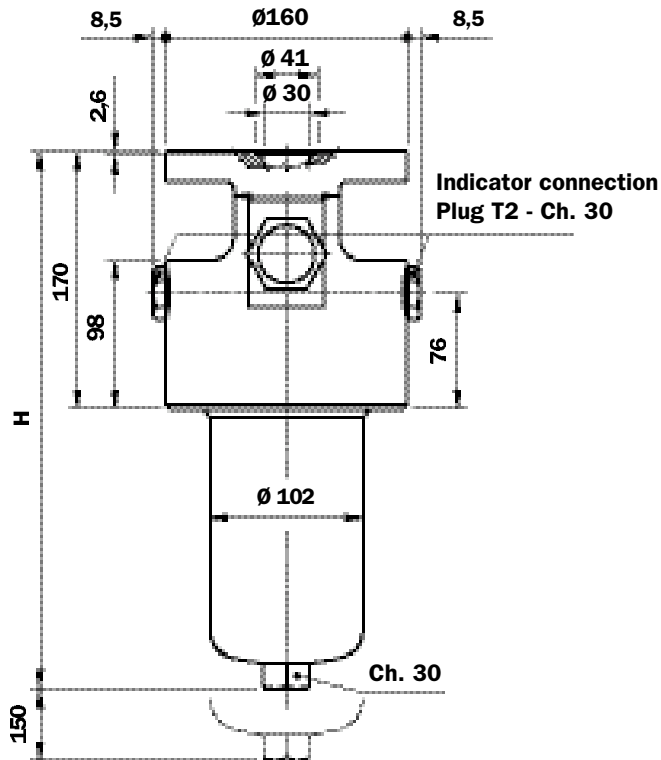
Recommended maximum flow rate

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

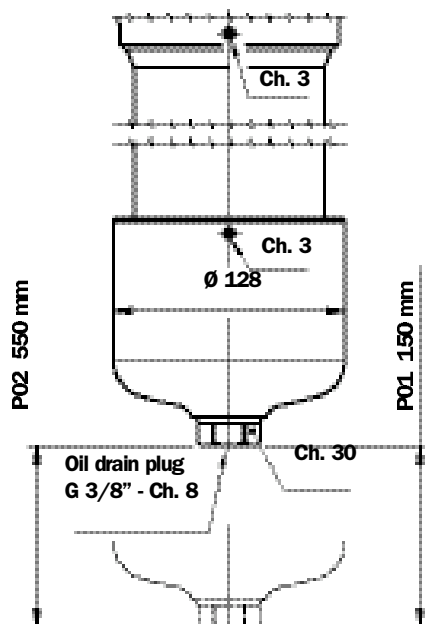
Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	60	46	1
A06	65	51	
A10	99	84	
A16	104	86	
A25	130	122	
M25	150	-	
A03	90	79	2
A06	97	92	
A10	118	110	
A16	120	112	
A25	155	135	
M25	165	-	
A03	118	102	3
A06	120	112	
A10	143	130	
A16	145	137	
A25	160	146	
M25	165	-	

Filter Length	H mm
1	202
2	315
3	390

FHM 320



Only for FHM 320 length 4



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.

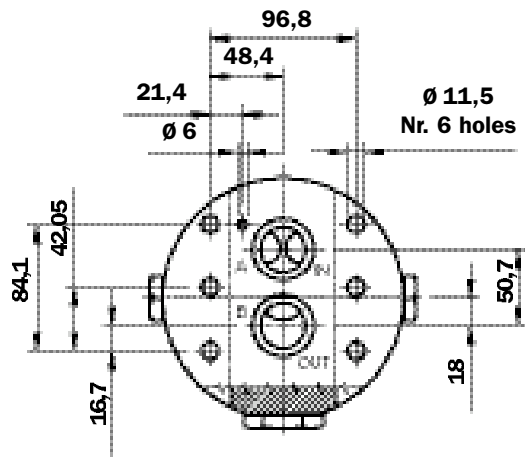
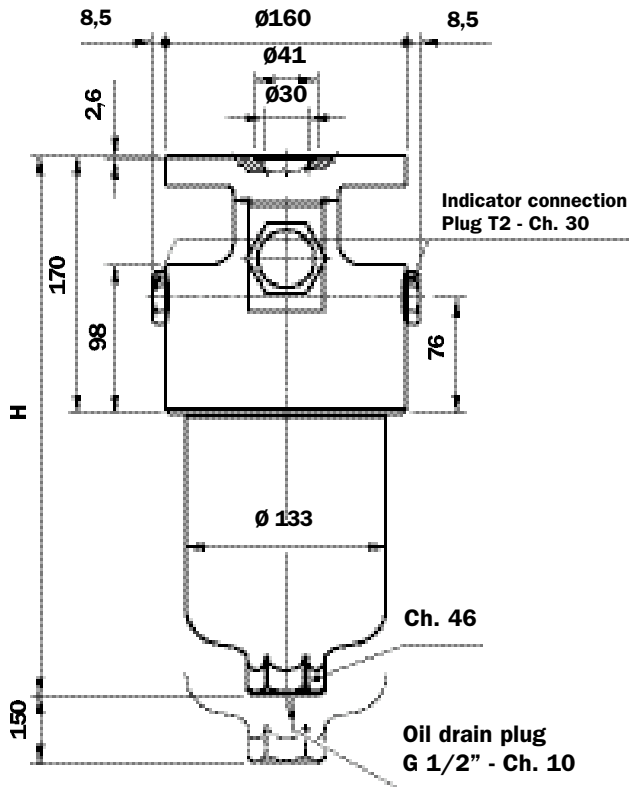
Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	112	97	1
A06	121	104	
A10	187	156	
A16	217	162	
A25	252	228	
M25	310	-	2
A03	200	162	
A06	215	181	
A10	282	238	
A16	292	240	
A25	320	282	3
M25	330	-	
A03	246	206	
A06	268	233	
A10	311	275	
A16	320	280	4
A25	325	305	
M25	332	-	
A03	266	234	
A06	280	246	
A10	315	280	4
A16	325	285	
A25	336	313	
M25	345	-	

Filter Length **H mm**

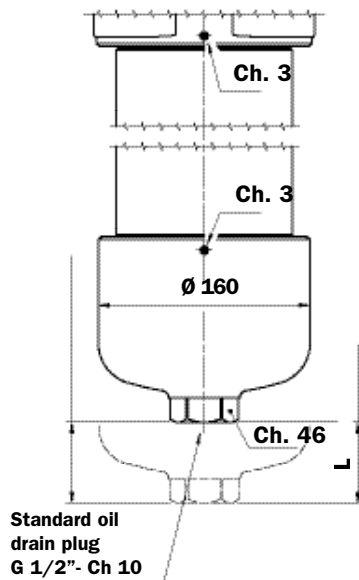
1	293
2	416
3	548
4	702

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

FHM 500



Only for FHM 500 length 4/5



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.

Filter element type	Flow rate l/min Series N	Flow rate l/min Series H	Filter Length
A03	225	140	
A06	250	155	
A10	272	235	1
A16	272	235	
A25	300	295	
M25	350	-	
A03	250	210	
A06	265	230	
A10	300	285	2
A16	310	285	
A25	325	330	
M25	400	-	
A03	285	250	
A06	290	265	
A10	315	315	3
A16	320	330	
A25	330	360	
M25	400	-	
A03	350	287	
A06	370	315	
A10	400	365	4
A16	400	370	
A25	410	390	
M25	430	-	
A03	370	348	
A06	380	350	
A10	400	385	5
A16	410	395	
A25	420	410	
M25	430	-	

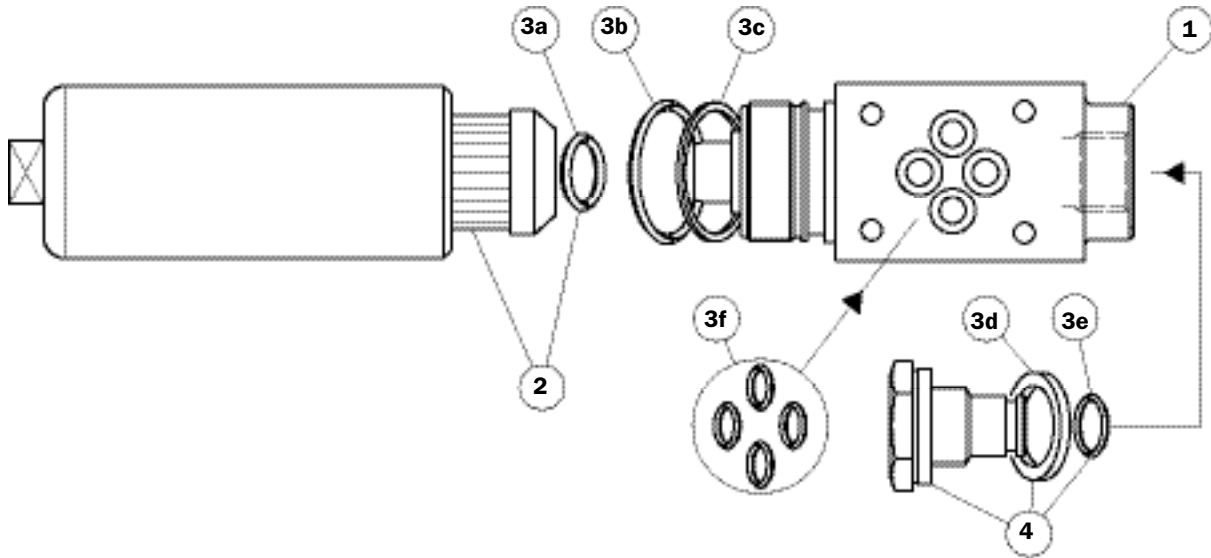
Filter Length **H mm**

1	358
2	448
3	524
4	680
5	846

Style P01		Style P02	
L mm	Filter Length	L mm	Filter Length
150	4/5	480	4
		650	5

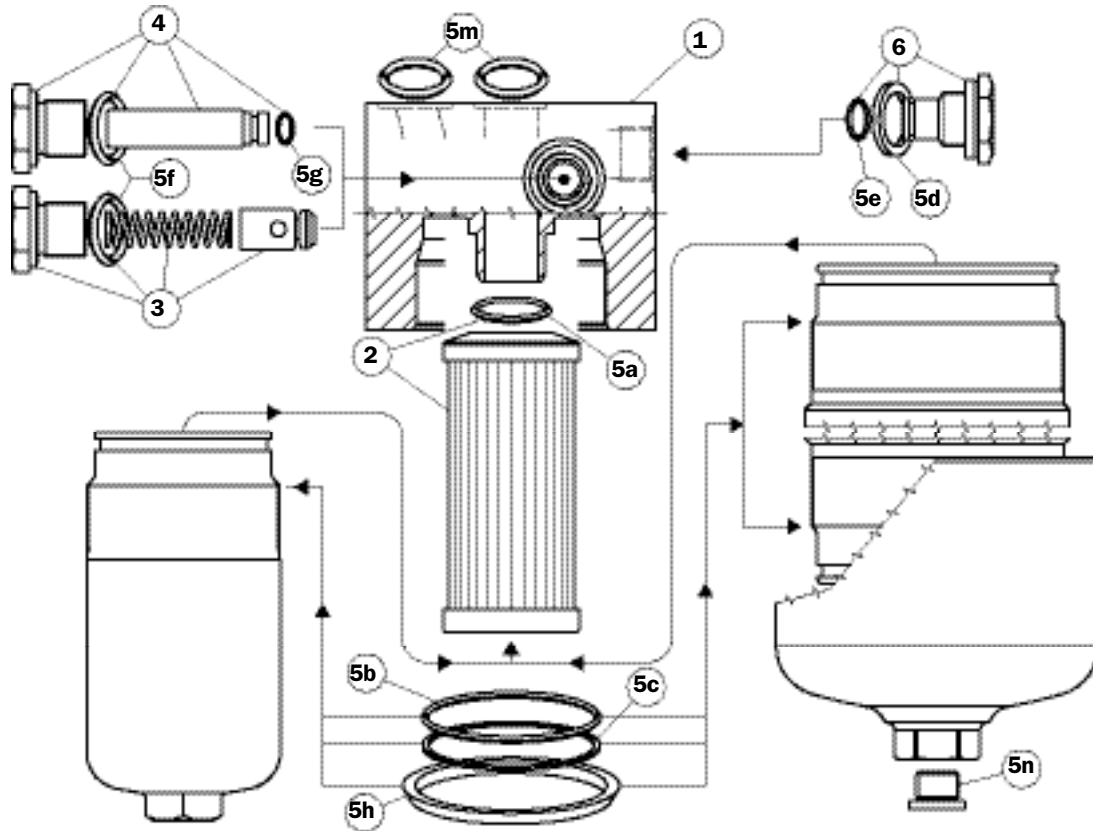
Style P01 standard maintenance from head.
 Style P02 maintenance option from housing base.
 See tables alongside.

Spare parts FHM 006 - 010



Pos.	Description	Qty.	Series FHM 006 - 010 FILTER			
			006 1		010 2 - 3	
1	Complete filter	1	See order table			
2	Filter element	1	See order table			
3	Seals kit	1	NBR 02050324	FPM 02050325	NBR 02050320	FPM 02050321
3a	O-Ring for filter element	1	OR 121 Ø 15.88 x 2.62		OR 4100 Ø 24.99 x 3.53	
3b	O-Ring for housing	1	OR 3125 Ø 31.42 x 2.62		OR 3187 Ø 47.29 x 2.62	
3c	Anti-extrusion ring	1	Parbak 124 Ø 32.21 x 2.18		Parbak 134 Ø 48.08 x 2.18	
3d	Bonded seal	1	G 1/2" - FPM			
3e	O-Ring	1	OR 2050 - Ø 12.42 x 1.78 - FPM			
3f	O-Ring	4	4 pz.	OR 108 Ø 8.73 x 1.78	5 pz.	OR 2050 Ø 12.42 x 1.78
4	Indicator connection plug	1	T2			
-	Indicator	1	See order table			

Spare parts FHM



Pos.	Description	Qty.	Series FHM FILTER									
			050 1 - 2 - 3 - 4 - 5		065 1 - 2 - 3		135 1 - 2 - 3		320 1 - 2 - 3 - 4		500 1 - 2 - 3 - 4 - 5	
1	Complete filter	1	See order table									
2	Filter element	1	See order table									
3	Bypass assembly	1	02001400 (NBR) 02001401 (FPM)		02001404 (NBR) 02001405 (FPM)		02001408 (NBR) 02001411 (FPM)					
4	No bypass assembly	1	02001402 (NBR) 02001403 (FPM)		02001406 (NBR) 02001407 (FPM)		02001410 (NBR) 02001411 (FPM)					
5	Seals kit	1	NBR 02050410	FPM 02050411	NBR 02050268	FPM 02050279	NBR 02050271	FPM 02050282	NBR 02050275	FPM 02050286	NBR 02050332	FPM 02050333
5a	Filter element O-Ring	1	OR 3093 Ø 23.47 x 2.62		OR 4100 Ø 24.99 x 3.53		OR 3106 Ø 26.65 x 2.62		OR 144 Ø 39.69 x 3.53		OR 153 Ø 49.21 x 3.53	
5b	O-Ring for housing	1	OR 3225 Ø 56.82 x 2.62		OR 159 Ø 55.56 x 3.53		OR 3256 Ø 64.77 x 2.62		2 pcs.	OR 3350	2 pcs.	OR 4462
5c	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
5d	Bonded seal	1	G 1/2" - FPM									
5e	O-Ring	1	OR 2050 Ø 12.42 x 1.78 - FPM									
5f	Bp or No Bp O-Ring	1	OR 121 (NBR 90 Sh A) Ø 15.88 x 2.62		OR 3087 (NBR 90 Sh A) Ø 21.89 x 2.62		OR 3143 (NBR 90 Sh A) Ø 36.17 x 2.62					
5g	No Bp O-Ring	1	OR 2031 Ø 7.65 x 1.78		OR 2037 Ø 9.25 x 1.78		OR 3108 Ø 26.64 x 2.62					
5h	Protective seal	1	01026521		01026509		01026510		-			
5m	O-Ring for head	2	OR 3081 Ø 20.29 x 2.62		OR 3093 Ø 23.47 x 2.62		OR 4137 Ø 34.52 x 3.53					
5n	Oil drain plug	1	-		-		G 3/8" with seal		G 1/2" with seal			
-	Indicator	1	See order table									
6	Indicator connection plug	1	T2									

Ordering information FHM

Filter assembly **FHM**

	1	2	3	4	5	6	7	8 a
	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>
Example: FHM	006	1	S	A	G1	A03	H	P01

Filter element **HP**

	1	2	6	4	7	8 b
	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>	<input style="width: 30px; height: 30px;" type="text"/>
Example: HP	020	1	A03	A	H	P01

1 - Size

Filter	Filter element
<input style="width: 30px; height: 20px;" type="text" value="006"/>	<input style="width: 30px; height: 20px;" type="text" value="020"/>
<input style="width: 30px; height: 20px;" type="text" value="010"/>	<input style="width: 30px; height: 20px;" type="text" value="065"/>
<input style="width: 30px; height: 20px;" type="text" value="050"/>	<input style="width: 30px; height: 20px;" type="text" value="050"/>
<input style="width: 30px; height: 20px;" type="text" value="065"/>	<input style="width: 30px; height: 20px;" type="text" value="065"/>
<input style="width: 30px; height: 20px;" type="text" value="135"/>	<input style="width: 30px; height: 20px;" type="text" value="135"/>
<input style="width: 30px; height: 20px;" type="text" value="320"/>	<input style="width: 30px; height: 20px;" type="text" value="320"/>
<input style="width: 30px; height: 20px;" type="text" value="500"/>	<input style="width: 30px; height: 20px;" type="text" value="500"/>

2 - Filter length

	006	010	050	065	135	320	500
<input style="width: 30px; height: 20px;" type="text" value="1"/>	X		X	X	X	X	X
<input style="width: 30px; height: 20px;" type="text" value="2"/>		X	X	X	X	X	X
<input style="width: 30px; height: 20px;" type="text" value="3"/>		X	X	X	X	X	X
<input style="width: 30px; height: 20px;" type="text" value="4"/>			X			X	X
<input style="width: 30px; height: 20px;" type="text" value="5"/>			X				X

3 - Valves

<input style="width: 30px; height: 20px;" type="text" value="S"/>	Without bypass
<input style="width: 30px; height: 20px;" type="text" value="B"/>	With bypass
<input style="width: 30px; height: 20px;" type="text" value="T"/>	without bypass + check valve*
<input style="width: 30px; height: 20px;" type="text" value="D"/>	with bypass + check valve*

N.B Sizes 006-010 are available only in **S** version without bypass.

*Reduced cross-section oilways

4 - Seals

<input style="width: 30px; height: 20px;" type="text" value="A"/>	NBR
<input style="width: 30px; height: 20px;" type="text" value="V"/>	FPM

5 - Connections

<input style="width: 30px; height: 20px;" type="text" value="G1"/>	Housing side A (only for 006 and 010)
<input style="width: 30px; height: 20px;" type="text" value="G2"/>	Housing side B (only for 006 and 010)
<input style="width: 30px; height: 20px;" type="text" value="F1"/>	Only for 050-065-135-320-500

6 - Filter elements

<input style="width: 30px; height: 20px;" type="text" value="A03"/>	Inorganic microfibre 3 µ	} βx (c) ≥ 1000 See page 9
<input style="width: 30px; height: 20px;" type="text" value="A06"/>	Inorganic microfibre 6 µ	
<input style="width: 30px; height: 20px;" type="text" value="A10"/>	Inorganic microfibre 10 µ	
<input style="width: 30px; height: 20px;" type="text" value="A16"/>	Inorganic microfibre 16 µ	
<input style="width: 30px; height: 20px;" type="text" value="A25"/>	Inorganic microfibre 25 µ	
<input style="width: 30px; height: 20px;" type="text" value="M25"/>	Stainless steel mesh 25 µ (style N only)	

7 - Filter elements collapse pressure

<input style="width: 30px; height: 20px;" type="text" value="N"/>	20 bar
<input style="width: 30px; height: 20px;" type="text" value="S"/>	210 bar (only for size 500)
<input style="width: 30px; height: 20px;" type="text" value="H"/>	210 bar

8 - Options

a) Filter

<input style="width: 30px; height: 20px;" type="text" value="P01"/>	MP Filtri standard
<input style="width: 30px; height: 20px;" type="text" value="P02"/>	Maintenance from base of housing (only FHM 320 4 - FHM 500 4 - 5)
<input style="width: 30px; height: 20px;" type="text" value="Pxx"/>	Customer request

b) Filter element

<input style="width: 30px; height: 20px;" type="text" value="P01"/>	MP Filtri standard
<input style="width: 30px; height: 20px;" type="text" value="Pxx"/>	Customer request

DIFFERENTIAL INDICATORS (see page 15)

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