

# FHB

**Maximum pressure 320 bar**  
**Flow rates to 485 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 FHB 065 - 135 - 320)
- Microfibre filter elements series S: 210 bar (only for FHB 050)
- 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

### FHB FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

### Weights (kg)

Length	1	2	3	4	5
• FHB050	2.61	2.98	3.39	3.86	5.04
• FHB065	3.33	3.69	4.90	-	-
• FHB135	6.61	8.21	9.21	-	-
• FHB320	12.95	15.08	17.37	26.77	-

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

Length	1	2	3	4	5
• FHB050	0.21	0.30	0.40	0.52	0.81
• FHB065	0.20	0.27	0.49	-	-
• FHB135	0.40	0.73	0.94	-	-
• FHB320	0.91	1.63	2.40	3.59	-

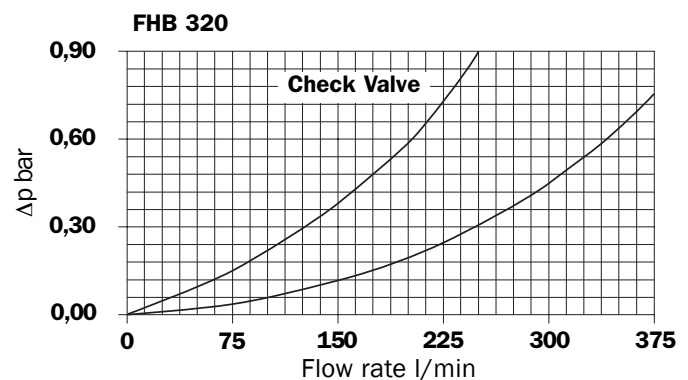
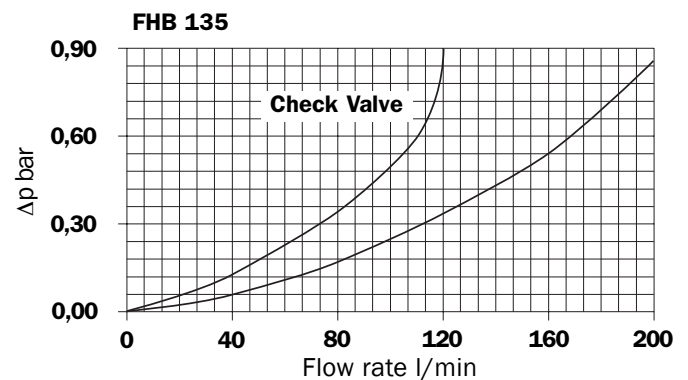
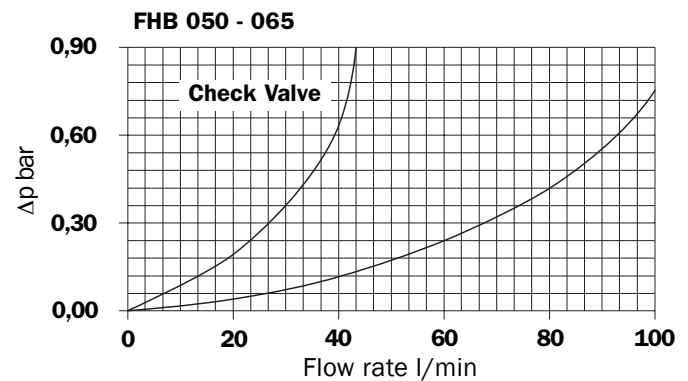
### Connections

- FHB: Side manifold Inlet/Outlet

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

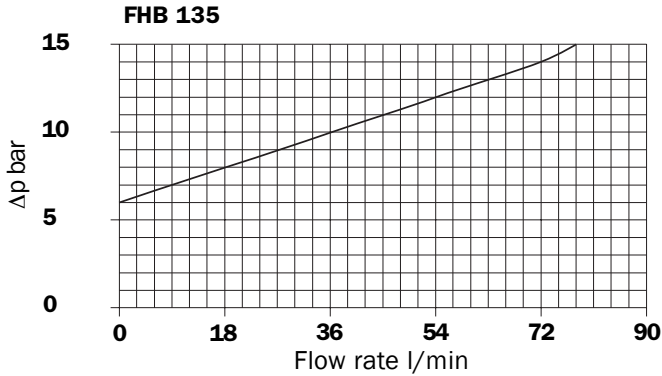
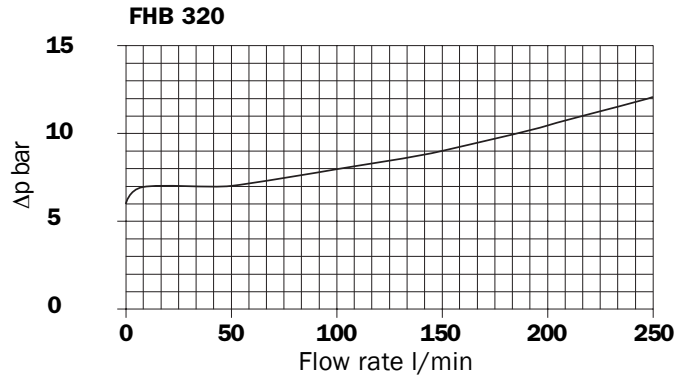
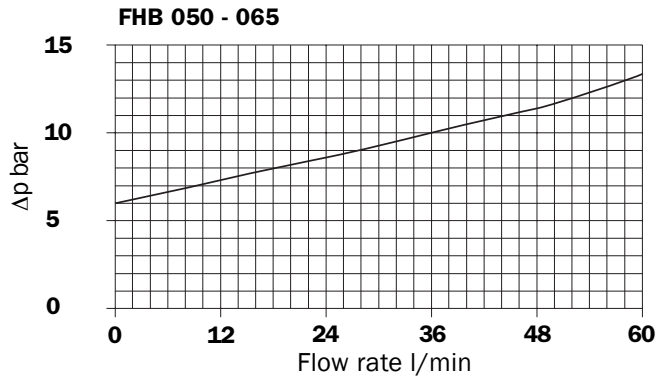
The curves are plotted utilising mineral oil with density of 0.86 kg/dm<sup>3</sup> to ISO 3968.

$\Delta p$  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	M25
<b>FHB 050</b>	1	42	44	78	80	100	130	
	2	53	58	83	93	112	132	
	3	65	69	93	100	118	133	
	4	82	86	105	108	122	134	
	5	102	104	119	122	127	136	

Serie N - Flow rate l/min

		Filtration					
		Length	A03	A06	A10	A16	A25
<b>FHB 050</b>	1	30	40	58	60	74	
	2	46	50	75	85	107	
	3	59	62	87	95	115	
	4	74	79	100	102	118	
	5	90	92	105	112	125	

Serie H - Flow rate l/min

		Filtration						
		Length	A03	A06	A10	A16	A25	M25
<b>FHB 065</b>	1	25	32	55	62	87	90	
	2	33	50	70	76	100	105	
	3	60	70	96	103	117	120	

Serie N - Flow rate l/min

		Filtration					
		Length	A03	A06	A10	A16	A25
<b>FHB 065</b>	1	23	25	49	57	80	
	2	32	38	66	75	94	
	3	59	68	95	100	115	

Serie H - Flow rate l/min

		Filtration						
		Length	A03	A06	A10	A16	A25	M25
<b>FHB 135</b>	1	67	72	119	129	176	200	
	2	109	116	152	154	224	230	
	3	153	155	200	205	226	235	

Serie N - Flow rate l/min

		Filtration					
		Length	A03	A06	A10	A16	A25
<b>FHB 135</b>	1	48	55	97	100	159	
	2	90	110	137	140	182	
	3	126	141	175	187	206	

Serie H - Flow rate l/min

		Filtration						
		Length	A03	A06	A10	A16	A25	M25
<b>FHB 320</b>	1	130	143	238	285	340	440	
	2	259	282	390	408	450	465	
	3	330	368	440	450	460	475	
	4	367	390	445	463	480	485	

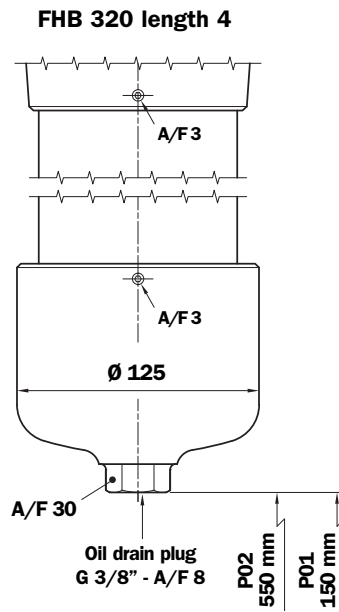
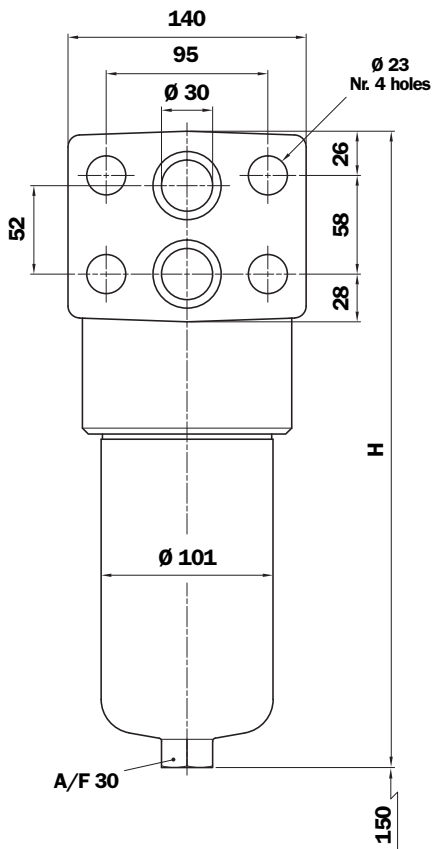
Serie N - Flow rate l/min

		Filtration					
		Length	A03	A06	A10	A16	A25
<b>FHB 320</b>	1	110	117	191	200	300	
	2	200	230	318	325	390	
	3	268	312	379	387	430	
	4	310	332	387	392	435	

Serie H - Flow rate l/min

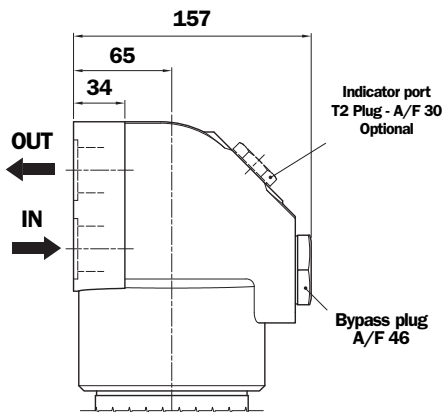


# FHB 320



Style P01  
Standard maintenance from head.

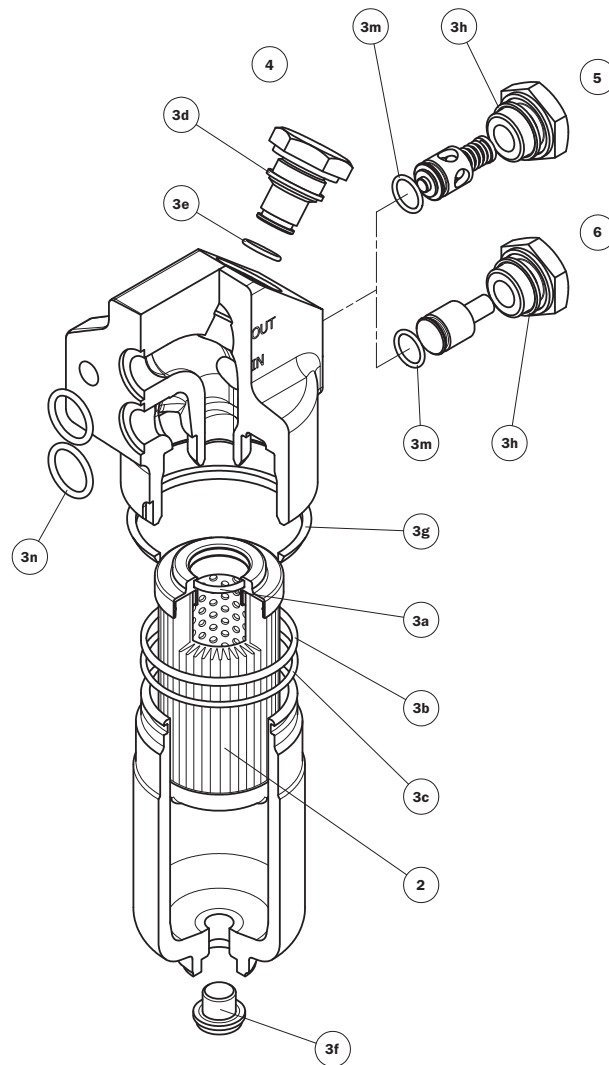
Style P02  
Maintenance option from housing base.



## FHB 320

Length Filter	H mm
1	301
2	424
3	556
4	709

# Spare parts



Item	Description	Q.ty	FILTER Series							
			FHB 050		FHB 065		FHB 135		FHB 320	
1	Filter assembly	1	See order table							
2	Filter element	1	See order table							
3	Seal Kit	1	NBR 02050412	FPM 02050413	NBR 02050266	FPM 02050277	NBR 02050270	FPM 02050281	NBR 02050273	FPM 02050284
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	
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
3c	Bowl anti-extrusion ring	1	Parbak 139 Ø 56,03 x 2,18		Parbak 277 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)	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	
3f	Drain plug	1	G 1/4" with bonded seal		G 1/4" with bonded seal		G 1/4" with bonded seal		G 1/8" with bonded seal	
3g	Protective seal	1	01026521		01026521		01026509		01026510	
3h	Bp or Non-Bp seal	1	Bonded seal G 1/2"		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 2050 Ø 12,42 x 1,78		O-R 3106 Ø 26,65 x 2,62	
3n	Head seal	2	O-R 3075 Ø 18,72 x 2,62		O-R 3075 Ø 18,72 x 2,62		O-R 3093 Ø 23,67 x 2,62		O-R 4131 Ø 32,92 x 3,53	
4	Indicator connection plug	1	T2H	T2V	T2H	T2V	T2H	T2V	T2H	T2V
5	Bypass assembly	1	NBR 02001312	FPM 02001385	NBR 02001312	FPM 02001385	NBR 02001312	FPM 02001385	NBR 02001381	FPM 02001382
6	Non-bypass assembly	1	NBR 02001314	FPM 02001386	NBR 02001314	FPM 02001386	NBR 02001314	FPM 02001386	NBR 02001383	FPM 02001384

# Ordering information FHB

## Filter assembly

### FHB

Example: FHB

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7a</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>065</b>	<b>2</b>	<b>B</b>	<b>A</b>	<b>F1</b>	<b>A10</b>	<b>N</b>
				<b>F1</b>		<b>P01</b>

## Filter element

### HP

Example: HP

<b>1</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>7b</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>065</b>	<b>2</b>	<b>A10</b>	<b>A</b>	<b>N</b>	<b>P01</b>

### 1 - Style

#### Filter

**050**  
 **065**  
 **135**  
 **320**

#### Filter element

**050**  
 **065**  
 **135**  
 **320**

### 2 - Filter length

**050**  
 **065**  
 **135**  
 **320**

**1**  **2**  **3**  **4**  **5**  
 **1**  **2**  **3**  
 **1**  **2**  **3**  
 **1**  **2**  **3**  **4**

### 3 - Valves

**S** Without bypass  
 **B** With bypass  
 **T** Without bypass + check valve\*  
 **D** With bypass + check valve\*

\*Reduced cross-section oilways

### 4 - Filter seals

**A** NBR  
 **V** FPM  
 On request

### 5 - Filter element

<input type="text"/> <b>A03</b>	Inorganic microfibre 3 $\mu$	} Absolute filtration Inorganic Microfibre  } $\beta_x(c) \geq 1000$
<input type="text"/> <b>A06</b>	Inorganic microfibre 6 $\mu$	
<input type="text"/> <b>A10</b>	Inorganic microfibre 10 $\mu$	
<input type="text"/> <b>A16</b>	Inorganic microfibre 16 $\mu$	
<input type="text"/> <b>A25</b>	Inorganic microfibre 25 $\mu$	
<input type="text"/> <b>M25</b>	Wire mesh 25 $\mu$	} Nominal Filtration Metal mesh

### 6 - Max filter element differential pressure

**N**  $\Delta p$  20 bar  
 **H**  $\Delta p$  210 bar (only for FHB 065 - 135 - 320)  
 **S**  $\Delta p$  210 bar (only for FHB 050)

### 7 - Option

#### a - Filter

**P01** MP Filtri standard  
 **P02** Maintenance from base of housing (only FHB 320 length 4)  
 **Pxx** Customer request

#### b - Filter element

**P01** MP Filtri standard  
 **Pxx** Customer request

#### \* Indicator plug:

Phosphated Steel plug T2 has to be ordered separately.

#### Code

**T2H** Seal NBR  
 **T2V** Seal FPM

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