

FHB series

Maximum working pressure up to 32 MPa (320 bar) - Flow rate up to 485 l/min



High Pressure filters

Manifold

Maximum working pressure up to 32 MPa (320 bar)

Flow rate up to 485 l/min

FHB is a range of high pressure filter for protection of sensitive components in high pressure hydraulic systems in the mobile machines. They are directly connected to the side of the manifold, through the proper flanged interface.

Available features:

- Manifold connections up to Ø30 mm, for a maximum flow rate of 485 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- Check valve, to protect the system against reverse flow
- Low collapse filter element "N", for use with filters provided with bypass valve
- High collapse filter element "H", for use with filters not provided with bypass valve
- High collapse filter element with external support "S", for filter element protection against the back pressure caused by the check valve in filters not provided with the bypass valve
- Visual, electrical and electronic differential clogging indicators

Common applications:

Delivery lines, in any high pressure industrial equipment or mobile machines

Filter housing materials

- Head: Phosphatized cast iron
- Housing: Phosphatized steel
- Bypass valve: Steel
- Check valve: Steel

Pressure

- Working pressure: 32 MPa (320 bar)
- Test pressure: 48 MPa (480 bar)
- Burst pressure: 96 MPa (960 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 32 MPa (320 bar)

Bypass valve

- Opening pressure 600 kPa (6 bar) ±10%
- Other opening pressures on request.

Δp element type

- Microfibre filter elements - series N: 20 bar
- Microfibre filter elements - series H: 210 bar (not available for FHB050)
- Microfibre filter elements - series S: 210 bar (only for FHB050)
- 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

Temperature

From -25 °C to +110 °C

Connections

Manifold mounting

Note

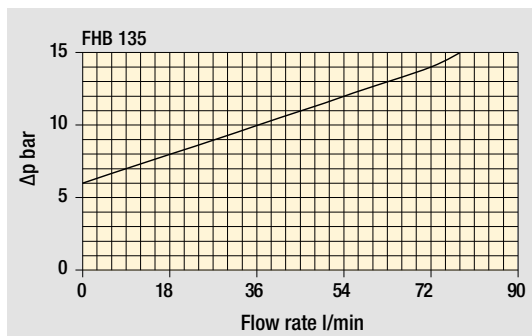
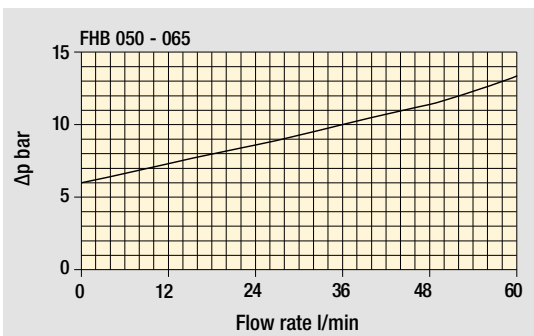
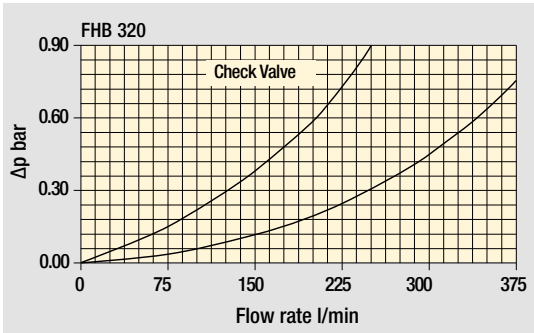
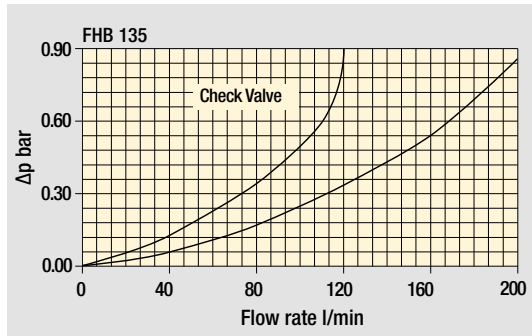
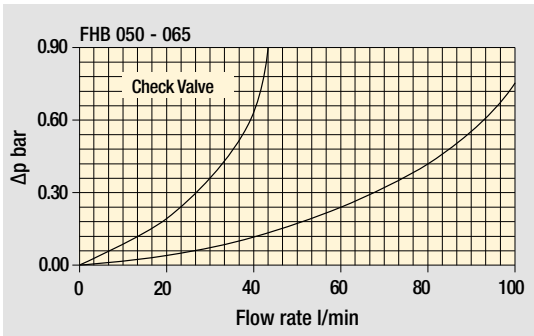
FHB filters are provided for vertical mounting



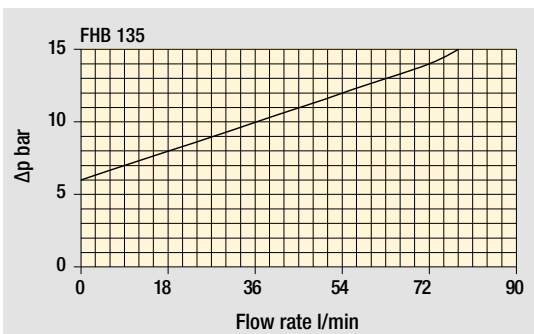
Weights [kg] and volumes [dm³]

Filter series	Weights [kg]					Volumes [dm ³]						
	Length	1	2	3	4	5	Length	1	2	3	4	5
FHB 050		2.61	2.98	3.39	3.86	5.04		0.21	0.30	0.40	0.52	0.81
FHB 065		3.33	3.69	4.90	-	-		0.20	0.27	0.49	-	-
FHB 135		6.61	8.21	9.21	-	-		0.40	0.73	0.94	-	-
FHB 320		12.95	15.08	17.37	26.77	-		0.91	1.63	2.40	3.59	-

Filter housings Δp pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

FHB GENERAL INFORMATION

Flow rates [l/min]

Filter series	Length	Filter element design - N Series						Filter element design - S Series				
		A03	A06	A10	A16	A25	M25	A03	A06	A10	A16	A25
FHB 050	1	43	42	79	81	101	131	30	40	58	60	74
	2	53	58	84	93	112	132	46	50	76	86	108
	3	67	70	94	101	119	133	59	62	87	95	115
	4	82	87	106	108	122	134	74	80	101	103	119
	5	102	104	119	122	127	136	90	92	105	113	126

Filter series	Length	Filter element design - N Series						Filter element design - H Series				
		A03	A06	A10	A16	A25	M25	A03	A06	A10	A16	A25
FHB 065	1	25	33	55	62	87	133	23	25	49	58	81
	2	33	51	70	76	101	134	33	38	66	75	94
	3	60	71	97	103	118	138	60	68	95	102	116
FHB 135	1	67	72	120	129	177	212	49	55	97	100	160
	2	109	116	152	154	224	250	90	110	137	140	182
	3	153	155	201	205	226	253	126	142	175	187	207
FHB 320	1	130	143	238	286	343	442	110	117	192	201	304
	2	259	281	391	409	454	468	200	230	319	325	392
	3	332	368	441	455	463	476	269	312	381	389	432
	4	368	390	446	462	481	488	311	334	388	394	437

Maximum flow rate for a complete pressure filter with a pressure drop $\Delta p = 1.5$ bar.

The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

Please, contact our Sales Department for further additional information.

Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D
FHB 050	•	•	•	•
FHB 065	•	•	•	•
FHB 135	•	•	•	•
FHB 320				

--	--	--	--

COMPLETE FILTER

Series and size	Configuration example: FHB050							2	T	A	F1	A06	S	P01																								
FHB050																																						
Length																																						
1 2 3 4 5																																						
Valves																																						
S Without bypass																																						
B With bypass 6 bar																																						
T With check valve, without bypass																																						
D With check valve, with bypass 6 bar																																						
Seals																																						
A NBR																																						
V FPM																																						
Connections																																						
F1 Manifold																																						
Filtration rating (filter media)																																						
A03 Inorganic microfiber 3 µm	A16 Inorganic microfiber 16 µm																																					
A06 Inorganic microfiber 6 µm	A25 Inorganic microfiber 25 µm																																					
A10 Inorganic microfiber 10 µm	M25 Wire mesh 25 µm																																					
													<table border="1"> <thead> <tr> <th colspan="2">Element Δp</th> <th colspan="4">Valves</th> <th colspan="2">Execution</th> </tr> <tr> <th>N</th> <th>20 bar</th> <th>S</th> <th>B</th> <th>T</th> <th>D</th> <th>P01</th> <th>MP Filtri standard</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>210 bar</td> <td>•</td> <td></td> <td>•</td> <td></td> <td>Pxx</td> <td>Customized</td> </tr> </tbody> </table>		Element Δp		Valves				Execution		N	20 bar	S	B	T	D	P01	MP Filtri standard	S	210 bar	•		•		Pxx	Customized
Element Δp		Valves				Execution																																
N	20 bar	S	B	T	D	P01	MP Filtri standard																															
S	210 bar	•		•		Pxx	Customized																															

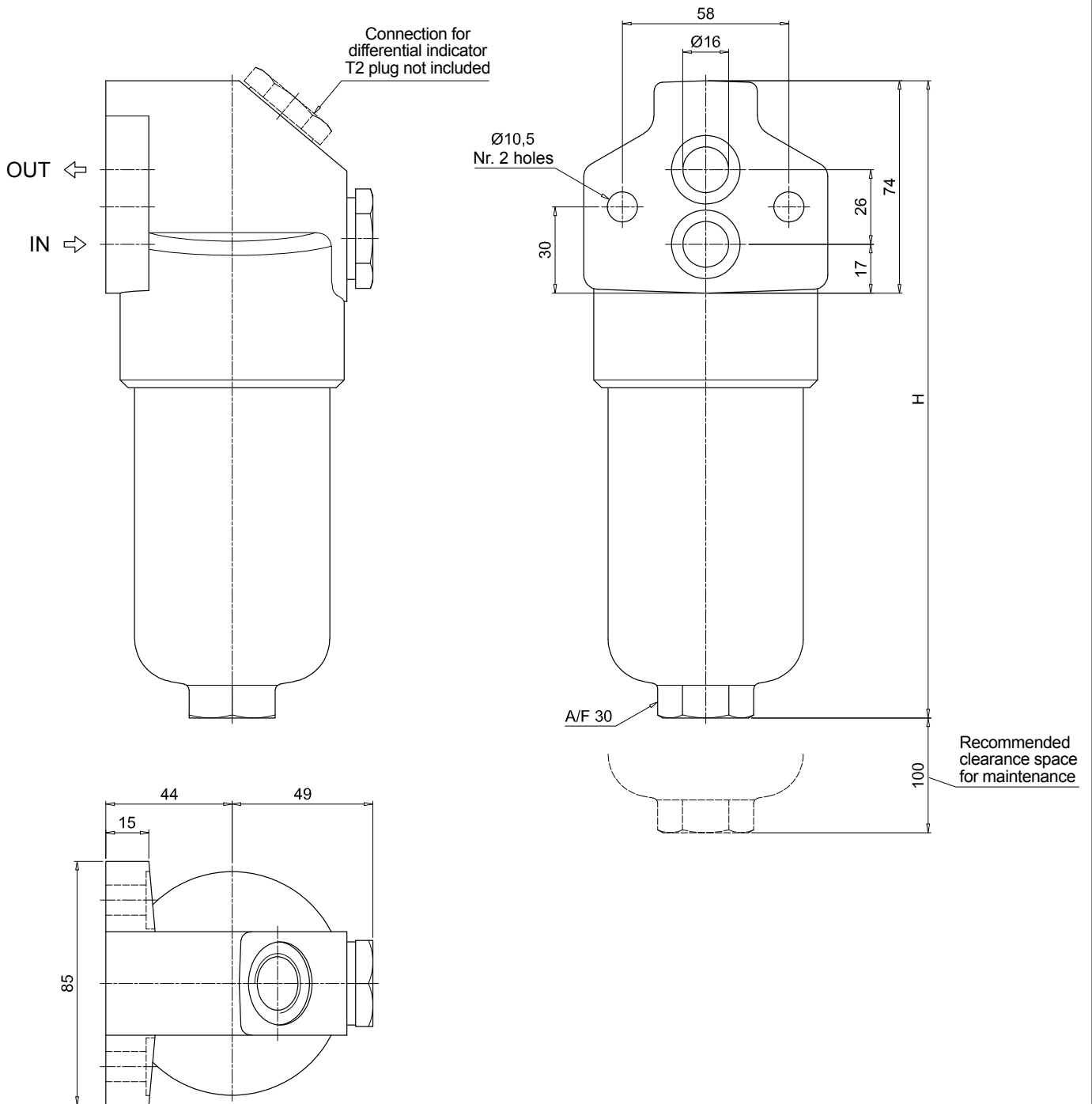
FILTER ELEMENT

Element series and size	Configuration example: HP050							2	A06	A	S	P01																								
HP050																																				
Element length																																				
1 2 3 4 5																																				
Filtration rating (filter media)																																				
A03 Inorganic microfiber 3 µm	A16 Inorganic microfiber 16 µm																																			
A06 Inorganic microfiber 6 µm	A25 Inorganic microfiber 25 µm																																			
A10 Inorganic microfiber 10 µm	M25 Wire mesh 25 µm																																			
											<table border="1"> <thead> <tr> <th colspan="2">Seals</th> <th colspan="2">Element Δp</th> <th colspan="2">Execution</th> </tr> <tr> <th>A</th> <th>NBR</th> <th>N</th> <th>20 bar</th> <th>P01</th> <th>MP Filtri standard</th> </tr> <tr> <th>V</th> <th>FPM</th> <th>S</th> <th>210 bar</th> <th>Pxx</th> <th>Customized</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Seals		Element Δp		Execution		A	NBR	N	20 bar	P01	MP Filtri standard	V	FPM	S	210 bar	Pxx	Customized						
Seals		Element Δp		Execution																																
A	NBR	N	20 bar	P01	MP Filtri standard																															
V	FPM	S	210 bar	Pxx	Customized																															

ACCESSORIES

Accessory	page	Accessory	page
Differential indicators			
DEA Electrical differential indicator	563	DLE Electrical / visual differential indicator	566
DEH Hazardous area electronic differential indicator	563-564	DTA Electronic differential indicator	567
DEM Electrical differential indicator	564-565	DVA Visual differential indicator	567
DLA Electrical / visual differential indicator	565-566	DVM Visual differential indicator	567
Additional features			
T2 Plug	568		

FHB050	
Filter length	H [mm]
1	185
2	222
3	264
4	312
5	434



FHB FHB065 - FHB135 - FHB320

Designation & Ordering code

COMPLETE FILTER

Series and size Configuration example: **FHB320** | **4** | **S** | **A** | **F1** | **A06** | **H** | **P01**

FHB065 | **FHB135** | **FHB320**

Length	FHB065	FHB135	FHB320
1	•	•	•
2	•	•	•
3	•	•	•
4			•

Valves

S	Without bypass
B	With bypass 6 bar
T	With check valve, without bypass
D	With check valve, with bypass 6 bar

Seals

A	NBR
V	FPM

Connections

F1	Manifold
-----------	----------

Filtration rating (filter media)

A03	Inorganic microfiber	3 µm	A16	Inorganic microfiber	16 µm
A06	Inorganic microfiber	6 µm	A25	Inorganic microfiber	25 µm
A10	Inorganic microfiber	10 µm	M25	Wire mesh	25 µm

Element Δp	S	B	T	D
N 20 bar		•		•
H 210 bar	•		•	

Execution	1	2	3	4
P01 MP Filtri standard	•	•	•	•
P02 Maintenance from the bottom of the housing				•
Pxx Customized				

FILTER ELEMENT

Element series and size Configuration example: **HP320** | **4** | **A06** | **A** | **H** | **P01**

HP065 | **HP135** | **HP320**

Element length	HP065	HP135	HP320
1	•	•	•
2	•	•	•
3	•	•	•
4			•

Filtration rating (filter media)

A03	Inorganic microfiber	3 µm	A16	Inorganic microfiber	16 µm
A06	Inorganic microfiber	6 µm	A25	Inorganic microfiber	25 µm
A10	Inorganic microfiber	10 µm	M25	Wire mesh	25 µm

Seals
A NBR
V FPM

Element Δp
N 20 bar
H 210 bar

Execution
P01 MP Filtri standard
Pxx Customized

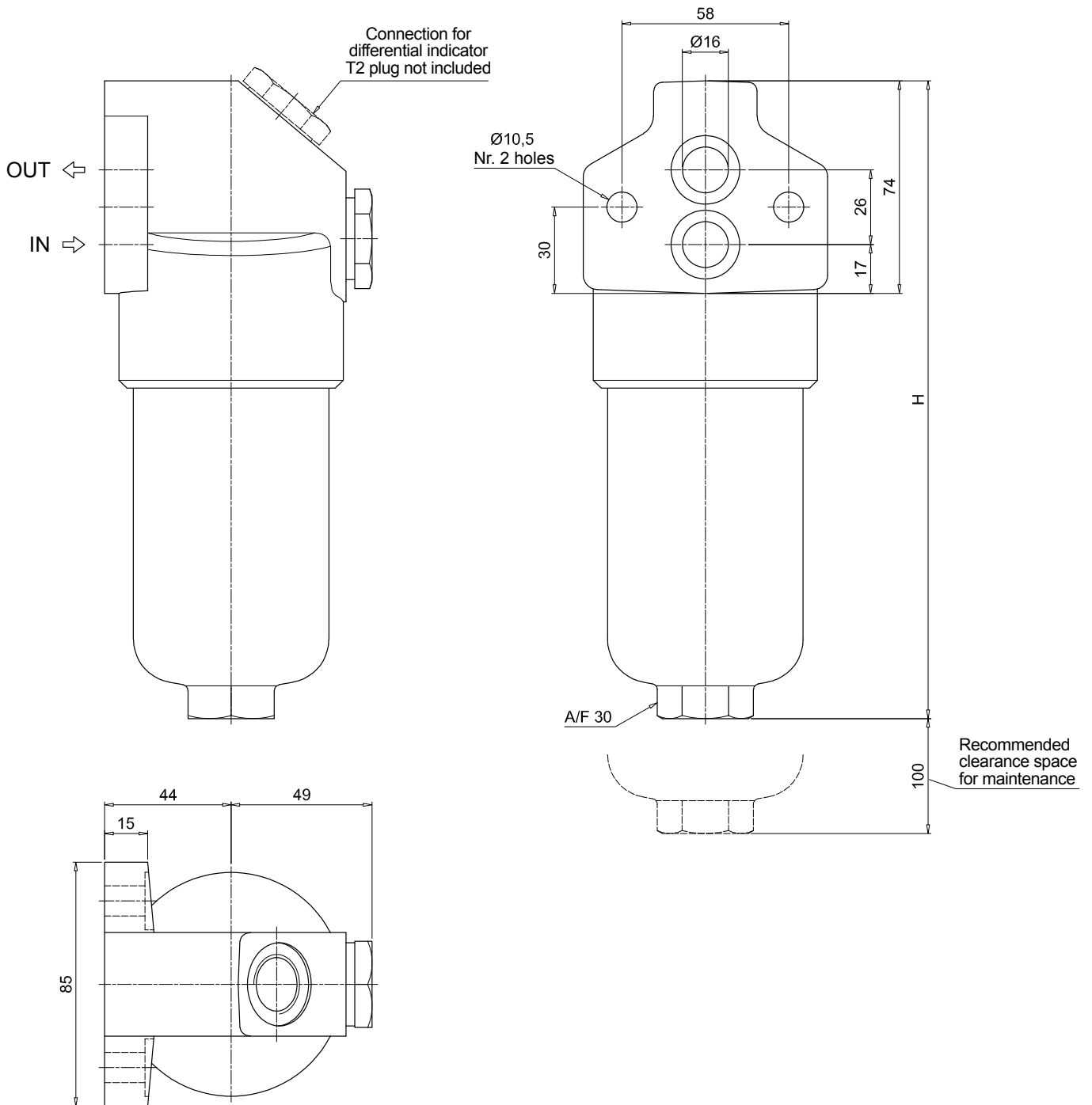
ACCESSORIES

Differential indicators	page	Differential indicators	page
DEA Electrical differential indicator	563	DLE Electrical / visual differential indicator	566
DEH Hazardous area electronic differential indicator	563-564	DTA Electronic differential indicator	567
DEM Electrical differential indicator	564-565	DVA Visual differential indicator	567
DLA Electrical / visual differential indicator	565-566	DVM Visual differential indicator	567

Additional features	page
T2 Plug	568

FHB065

Filter length	H [mm]
1	194
2	225
3	327

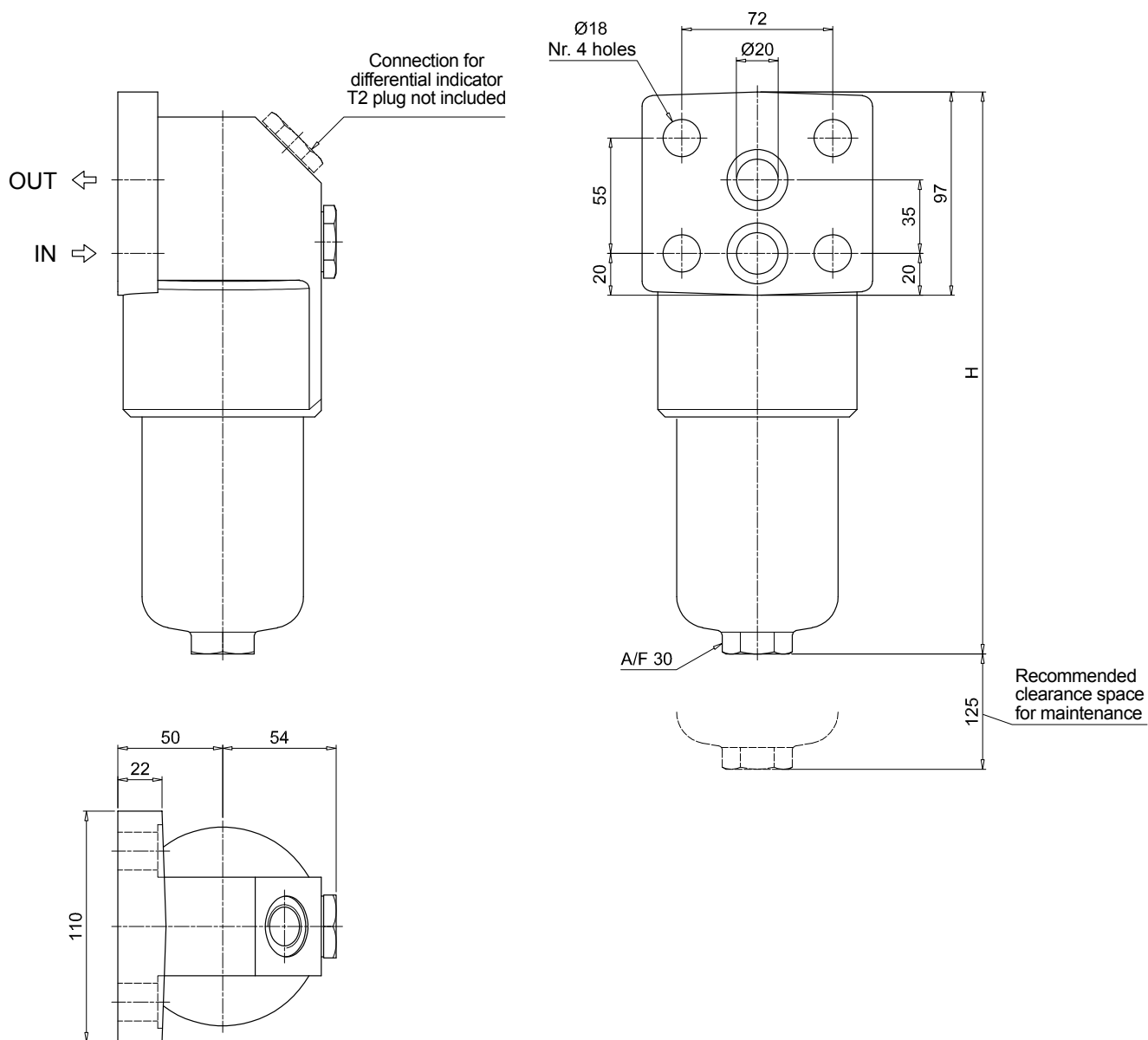


FHB FHB065 - FHB135 - FHB320

Dimensions

FHB135

Filter length	H [mm]
1	268
2	381
3	456

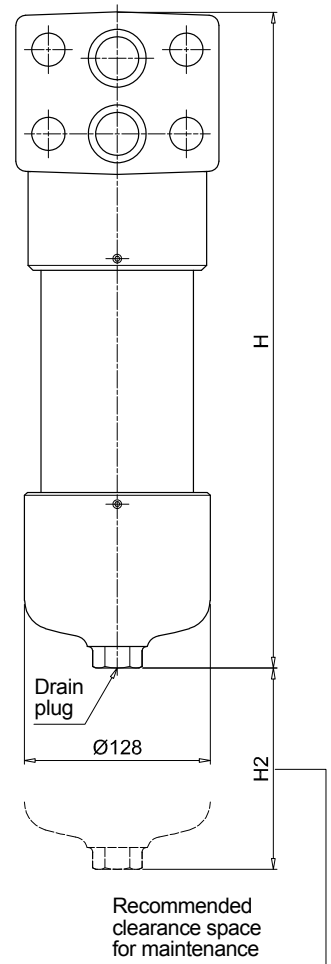
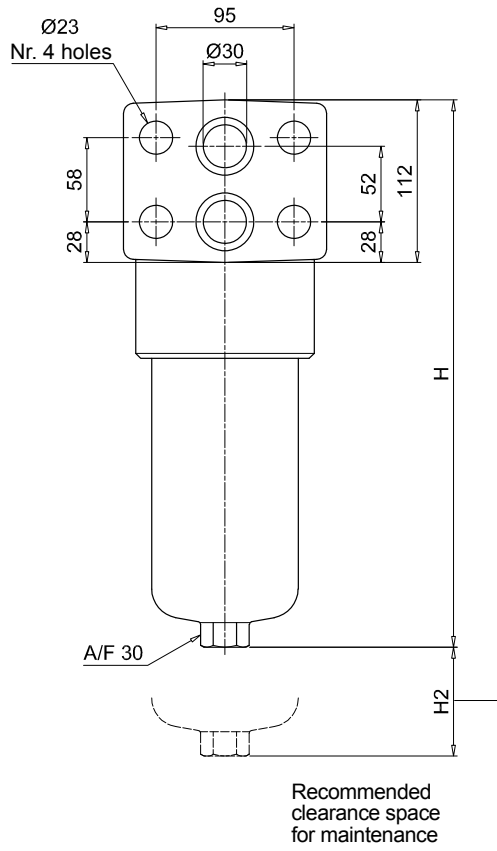
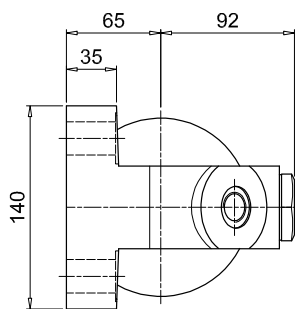
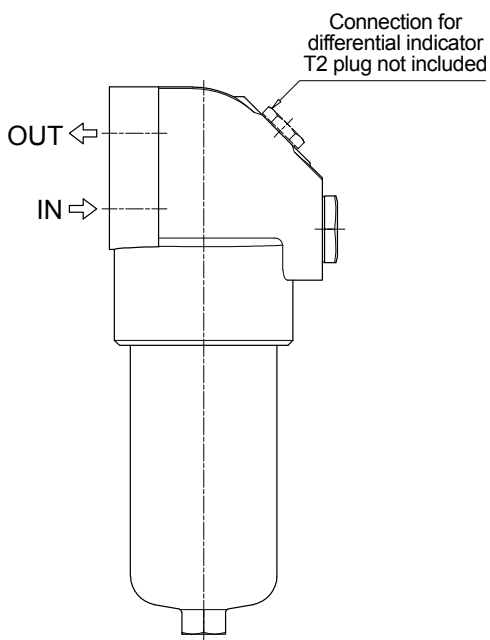


FHB320

Filter length	H [mm]	H2 [mm]	
		Execution P01	Execution P02
1	301	150	-
2	424	150	-
3	556	150	-
4	709	150	550

Length 1 - 2 - 3

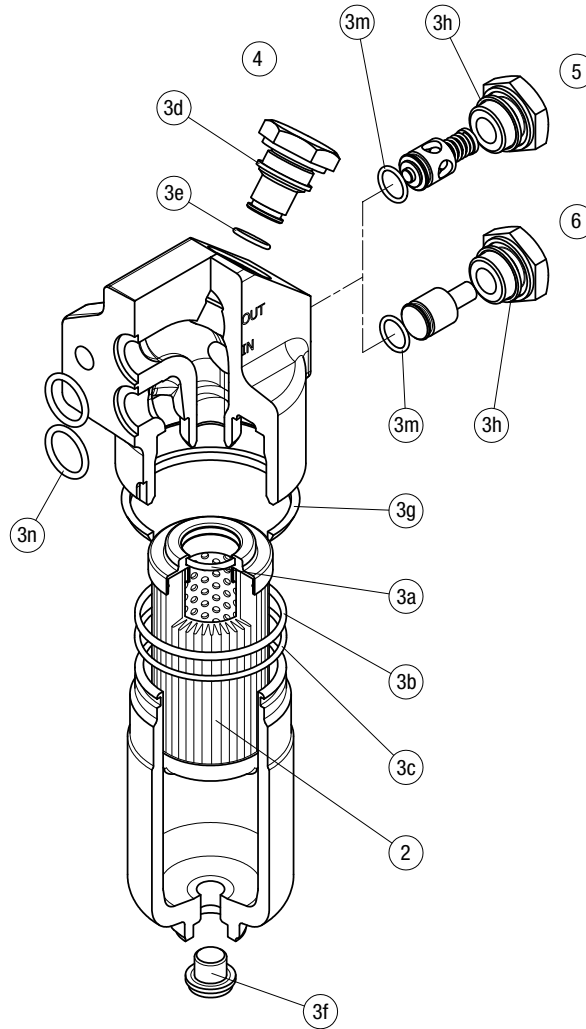
Length 4



FHB SPARE PARTS

Order number for spare parts

FHB 050 - 065 - 135 - 320



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3n)		Q.ty: 1 pc. 4		Q.ty: 1 pc. 5		Q.ty: 1 pc. 6	
Filter series	Filter element	Seal Kit code number		Indicator connection plug		Bypass assembly		Non-bypass assembly	
		NBR	FPM	NBR	FPM	NBR	FPM	NBR	FPM
FHB 050	See order table	02050412	02050413	T2H	T2V	02001312	02001385	02001314	02001386
FHB 065		02050266	02050277			02001312	02001385	02001314	02001386
FHB 135		02050270	02050281			02001312	02001385	02001314	02001386
FHB 320		02050273	02050284			02001381	02001382	02001383	02001384