

FHB series

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



Description

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

Technical data

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]

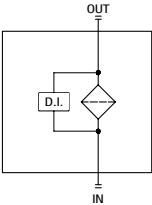
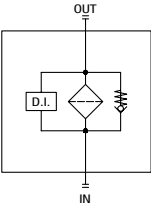
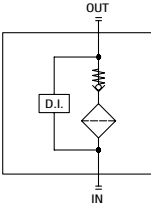
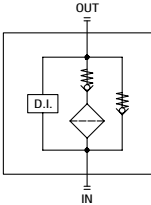
Filter series	Weights [kg]					Volumes [dm³]						
	Length	1	2	3	4	5	Length	1	2	3	4	5
FHB 050		2.61	2.98	3.39	3.86	5.04		0.21	0.30	0.40	0.52	0.81
FHB 065		3.33	3.69	4.90	-	-		0.20	0.27	0.49	-	-
FHB 135		6.61	8.21	9.21	-	-		0.40	0.73	0.94	-	-
FHB 320		12.95	15.08	17.37	26.77	-		0.91	1.63	2.40	3.59	-

Filter 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 Δp = 1.5 bar.

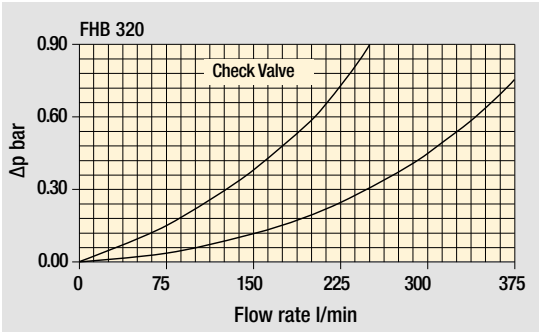
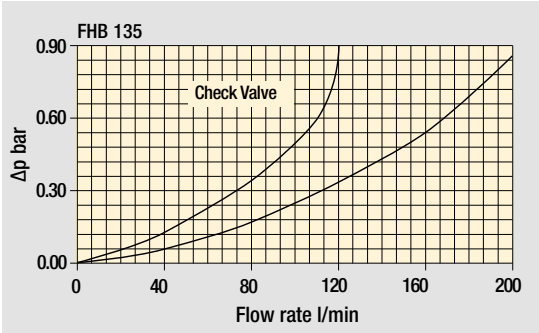
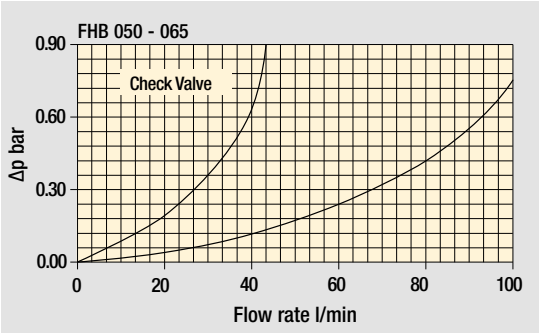
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.
Please, contact our Sales Department for further additional information.

Hydraulic symbols

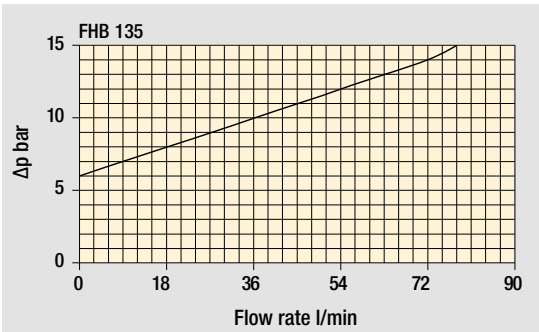
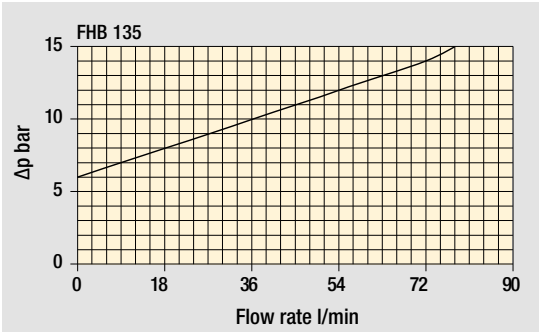
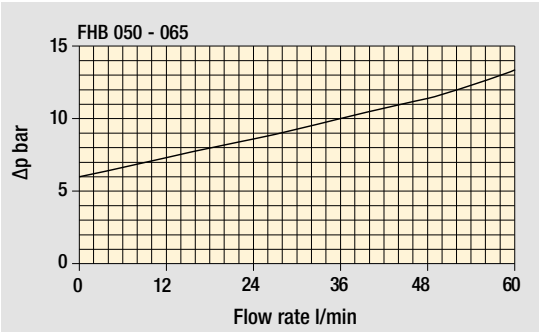
Filter series	Style S	Style B	Style T	Style D
FHB 050	•	•	•	•
FHB 065	•	•	•	•
FHB 135	•	•	•	•
FHB 320				
				

Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

COMPLETE FILTER

Series and size

FHB050

Configuration example:

FHB050

2

T

A

F1

A06

S

P01

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

A06

Inorganic microfiber

6 μm

A10

Inorganic microfiber

10 μm

A16

Inorganic microfiber

16 μm

A25

Inorganic microfiber

25 μm

M25

Wire mesh

25 μm

Valves

Element Δp

N

20 bar

S

210 bar

S

B

T

D

Execution

P01

MP Filtri standard

Pxx

Customized

FILTER ELEMENT

Element series and size

HP050

Configuration example:

HP050

2

A06

A

S

P01

Element length

1

2

3

4

5

Filtration rating (filter media)

A03

Inorganic microfiber

3 μm

A06

Inorganic microfiber

6 μm

A10

Inorganic microfiber

10 μm

A16

Inorganic microfiber

16 μm

A25

Inorganic microfiber

25 μm

M25

Wire mesh

25 μm

Seals

A

NBR

V

FPM

Element Δp

N

20 bar

S

210 bar

Execution

P01

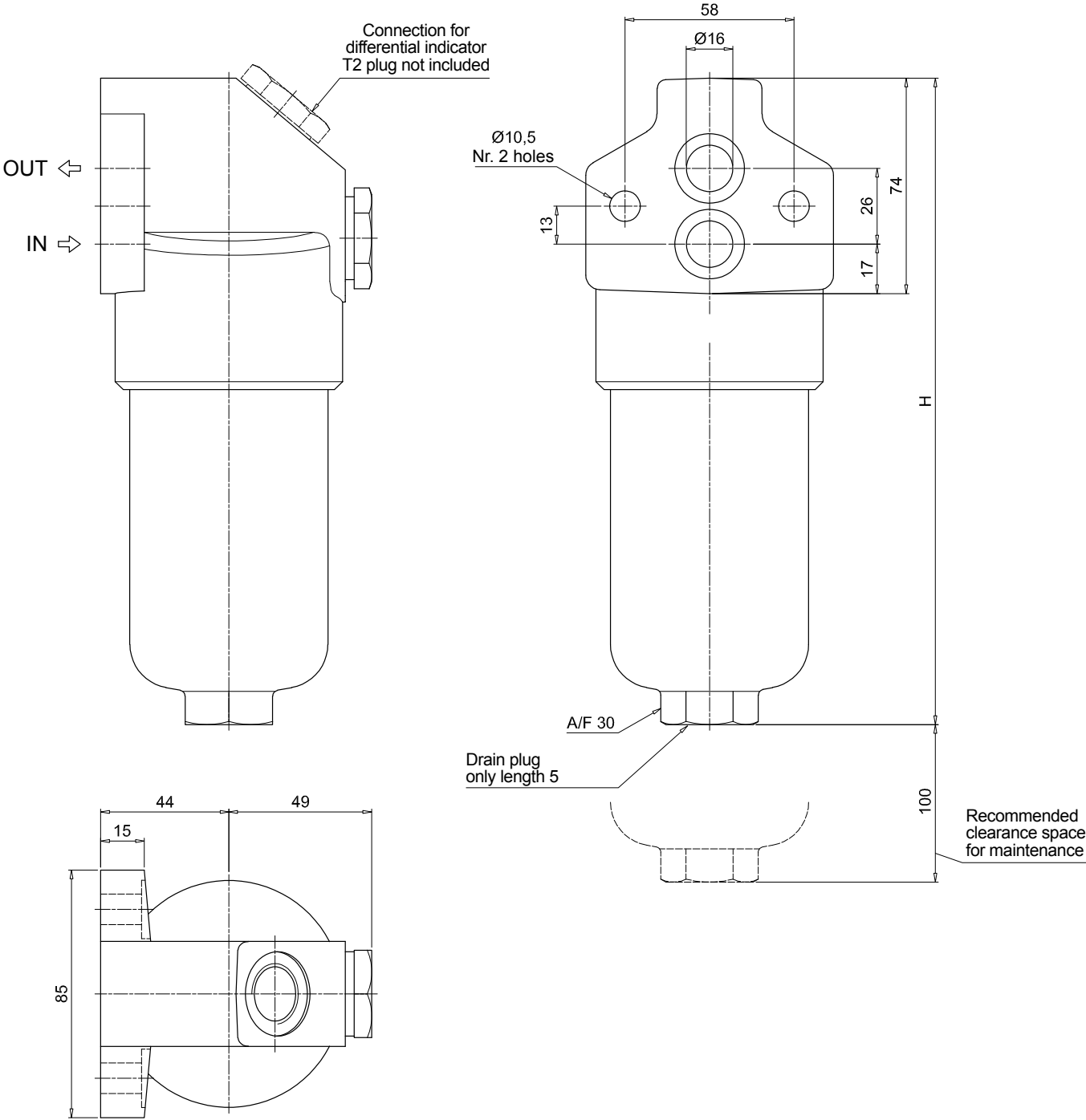
MP Filtri standard

Pxx

Customized

ACCESSORIES					
Differential indicators			page		
DEA	Electrical differential indicator	567	DLE	Electrical / visual differential indicator	570
DEH	Hazardous area electronic differential indicator	567-568	DTA	Electronic differential indicator	571
DEM	Electrical differential indicator	568-569	DVA	Visual differential indicator	571
DLA	Electrical / visual differential indicator	569-570	DVM	Visual differential indicator	571
Additional features			page		
T2	Plug	572			

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

FHB065 | FHB135 | FHB320

Configuration example:

FHB320

4

S

A

F1

A06

H

P01

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

HP065 | HP135 | HP320

Configuration example:

HP320

4

A06

A

H

P01

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

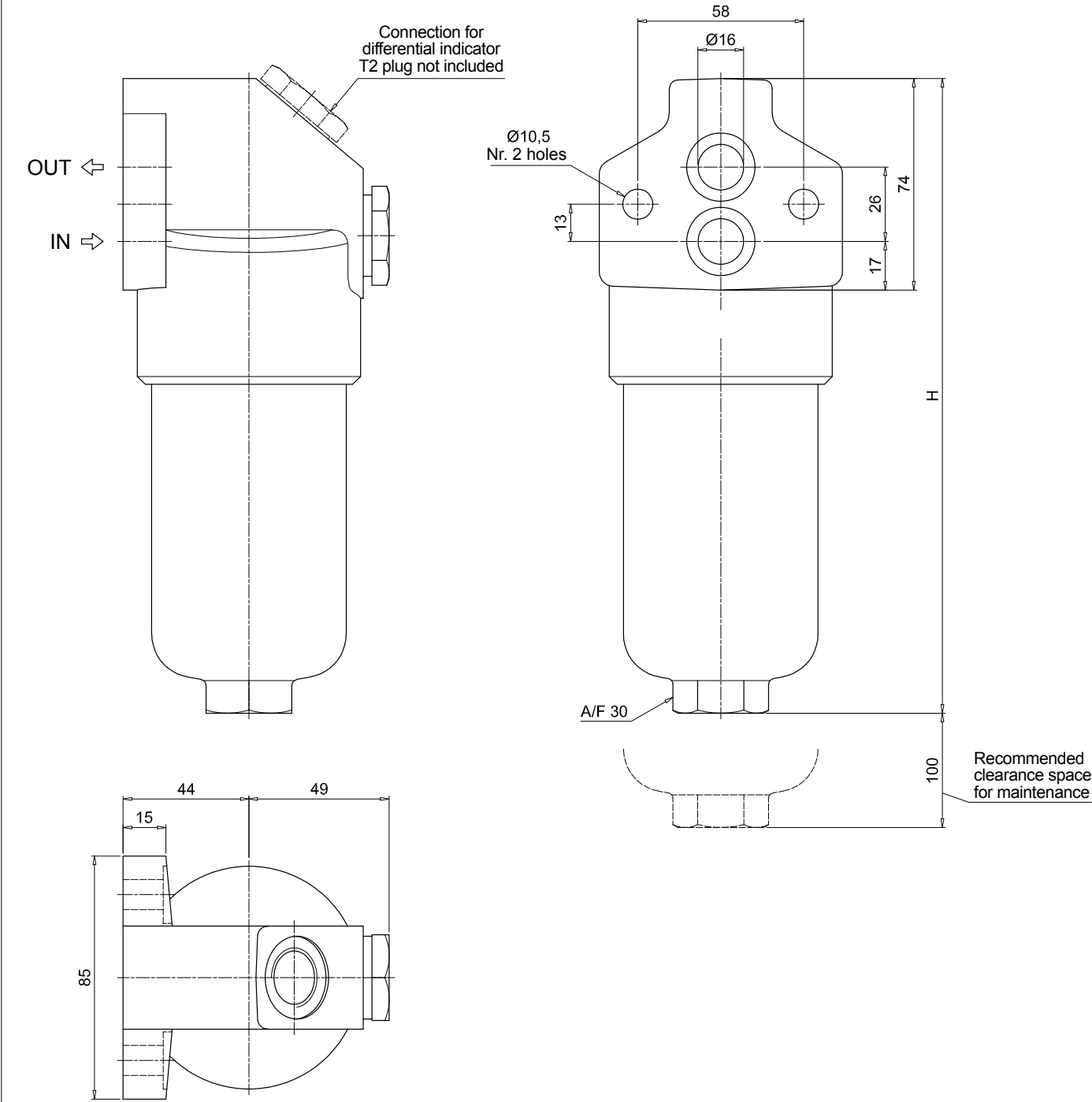
Pxx

Customized

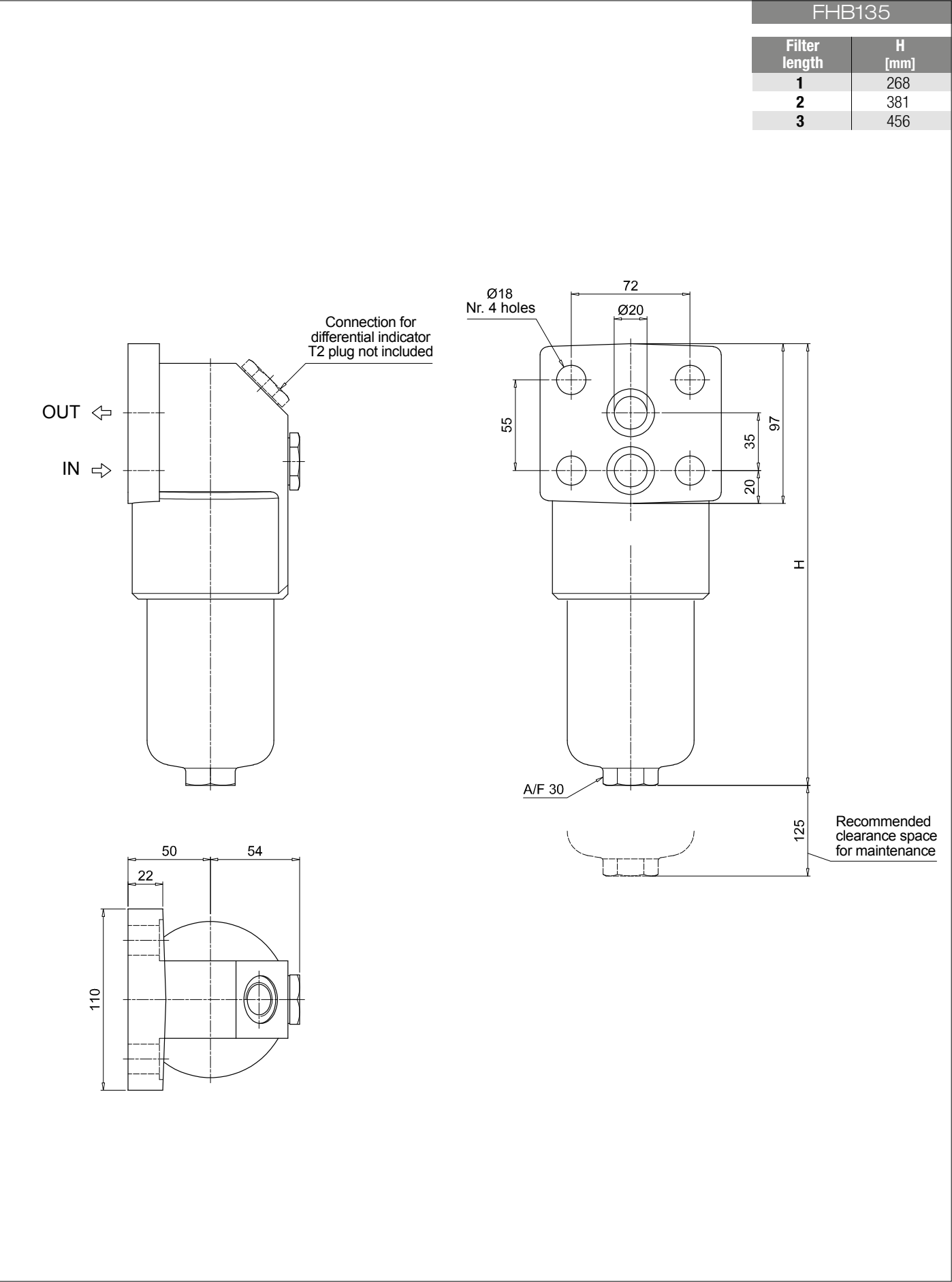
ACCESSORIES					
Differential indicators			page		
DEA	Electrical differential indicator	567	DLE	Electrical / visual differential indicator	570
DEH	Hazardous area electronic differential indicator	567-568	DTA	Electronic differential indicator	571
DEM	Electrical differential indicator	568-569	DVA	Visual differential indicator	571
DLA	Electrical / visual differential indicator	569-570	DVM	Visual differential indicator	571
Additional features			page		
T2	Plug	572			



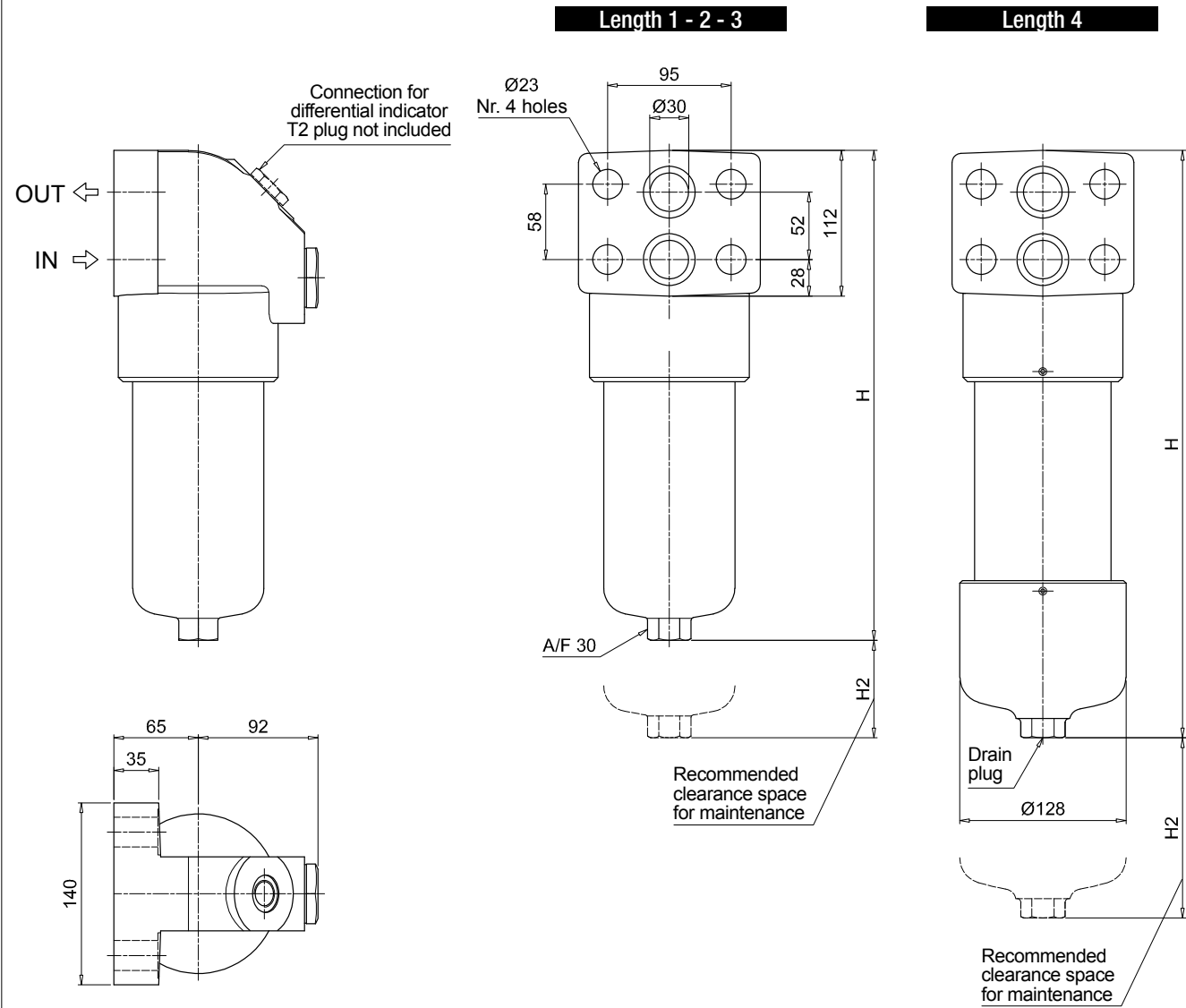
FHB065	
Filter length	H [mm]
1	194
2	225
3	327



Dimensions

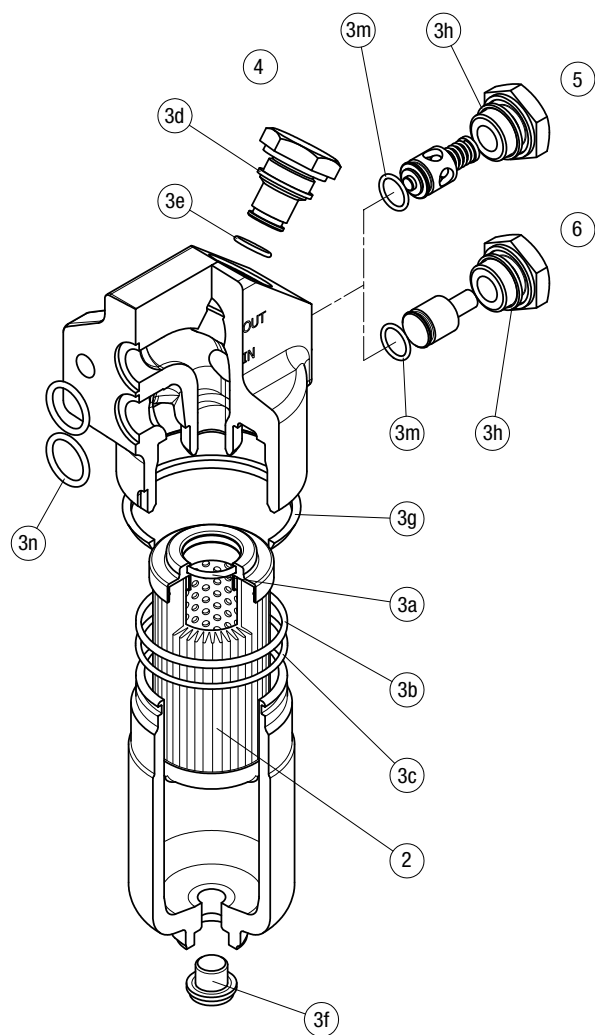


FHB320			
Filter length	H [mm]	H2 [mm]	
		Execution P01	Execution P02
1	301	150	-
2	424	150	-
3	556	150	-
4	709	150	550



Order number for spare parts

FHB 050 - 065 - 135 - 320



Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.	
Item: 2		3 (3a ÷ 3n)		4		5		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