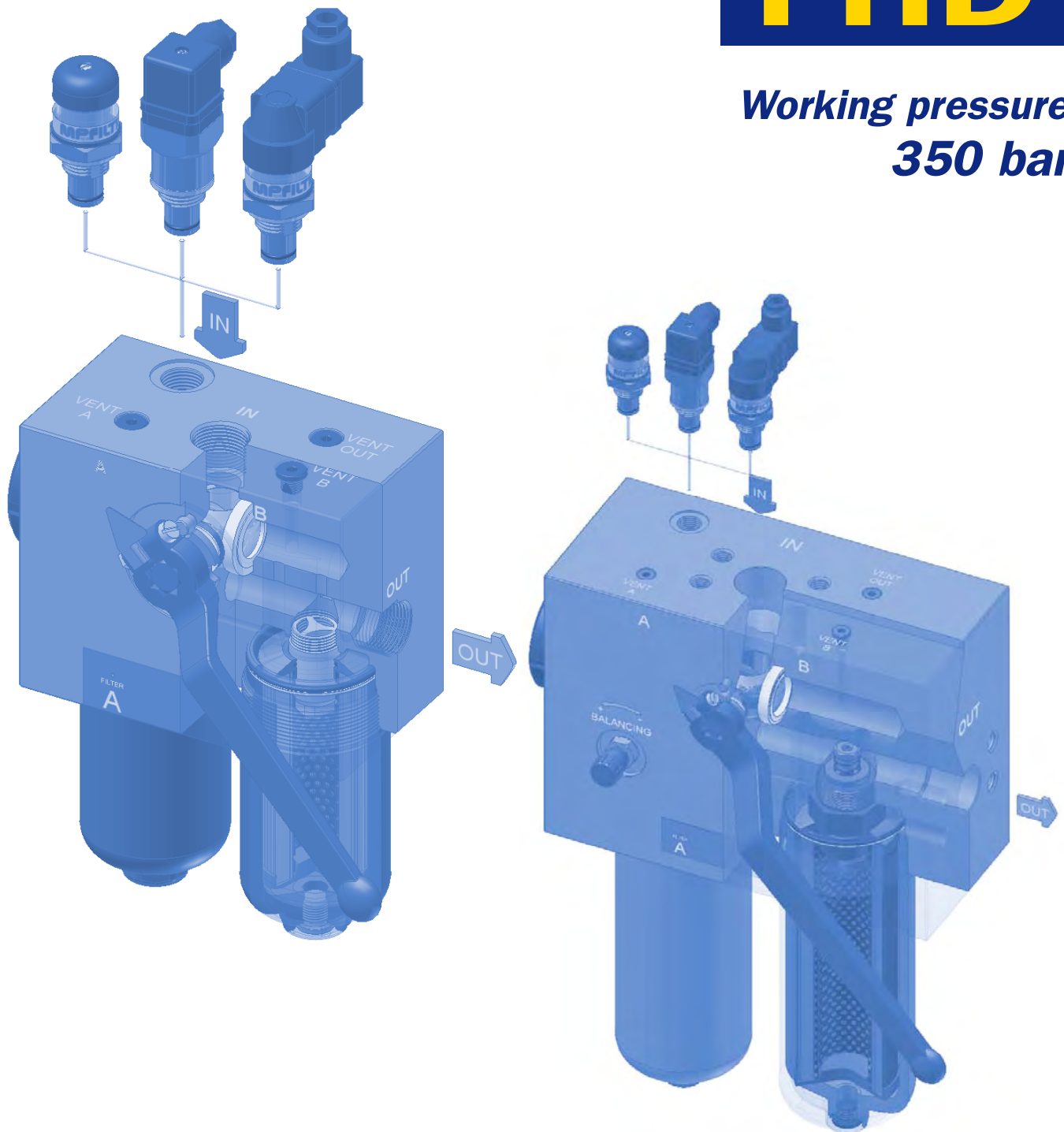


FHD

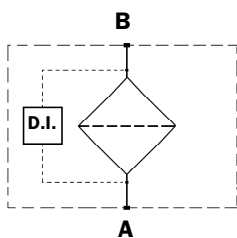


SERIES FHD

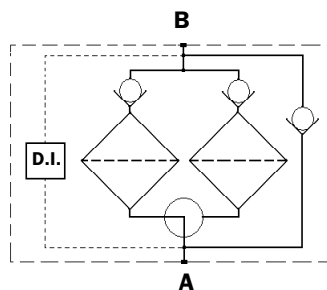
Working pressure
350 bar



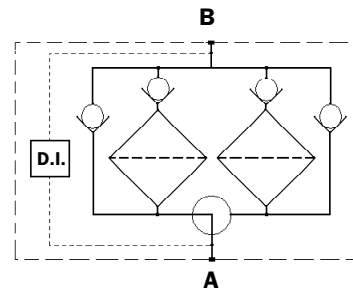
Style S



Style B
Series FHD 051



Style B
Series FHD 325/332



Technical data

Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel

Pressure

- Maximum operating pressure: 350 bar (35 MPa)
- Test pressure: 525 bar (52.5 MPa)
- Burst pressure: 1250 bar (125 MPa)
- Pulsed pressure fatigue test 1,000,000 cycles with pressure from 0 to 350 bar (35 MPa)

Temperature

- From -25°C to +110°C

Bypass valve

- Opening pressure 6 bar \pm 10%
- Other opening pressures on request.

Elements type Δp

- Elements in microfibrseries R : 20 bar
- Elements in microfibrseries S-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	0	1	2	3	4	5
• FHD 020		5,9	6,8				
• FHD 050				15	16,2	17,5	20
• FHD 325			50	55	59,5		
• FHD 332			65	80	89	101	

Filter internal volumes (dm³)

	Length	0	1	2	3	4	5
• FHD 020		0,31	0,51				
• FHD 050				1,05	1,25	1,46	1,82
• FHD 325			3,72	5,32	7,15		
• FHD 332			2,72	4,24	4,85	6,76	

Connections

In-line Inlet/Outlet 90°

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

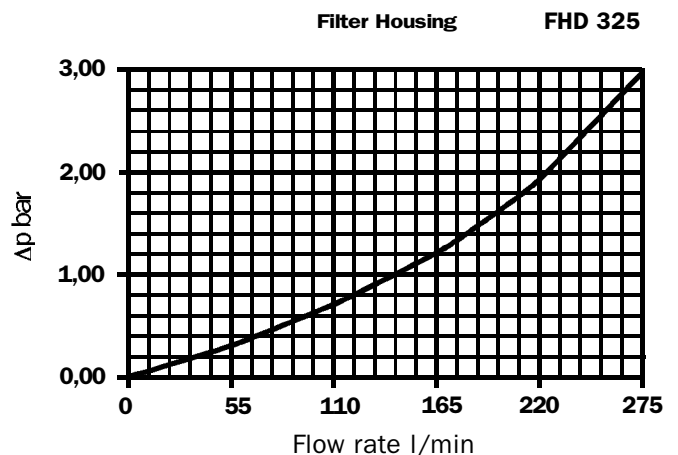
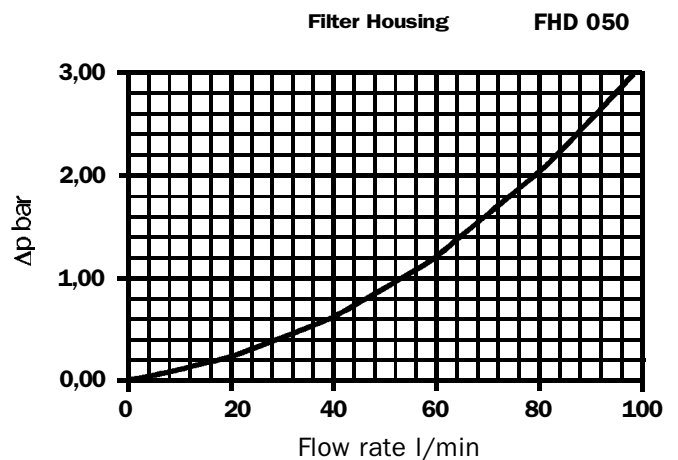
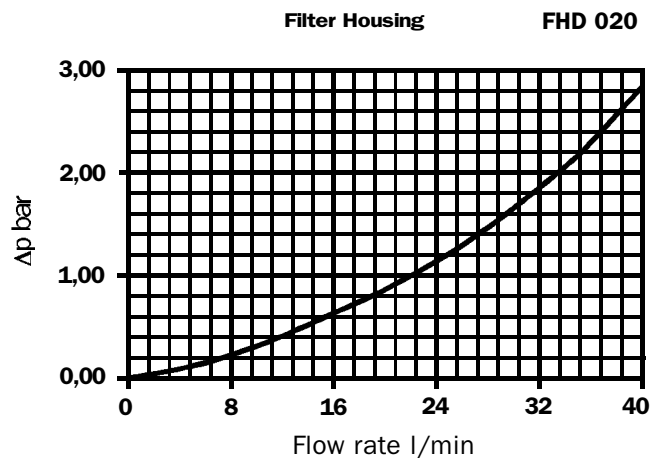
Type	Length					
	0	1	2	3	4	5
HP020		278				
HP050	-	450	700	1000	1300	2100
HP320	-	1650	3645	5970	8280	

Values expressed in cm²

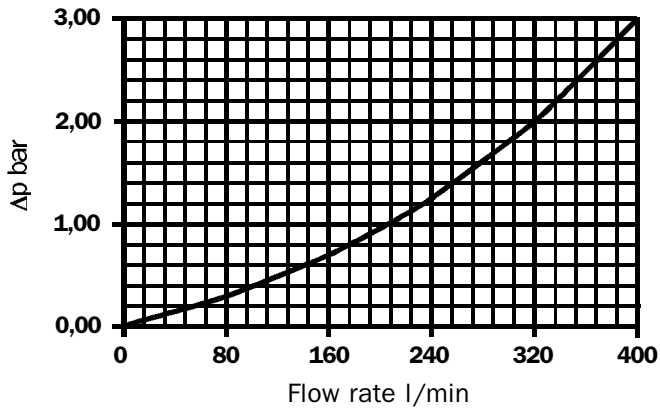
Pressure drops Δp Housing

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

Δp varies proportional with density.



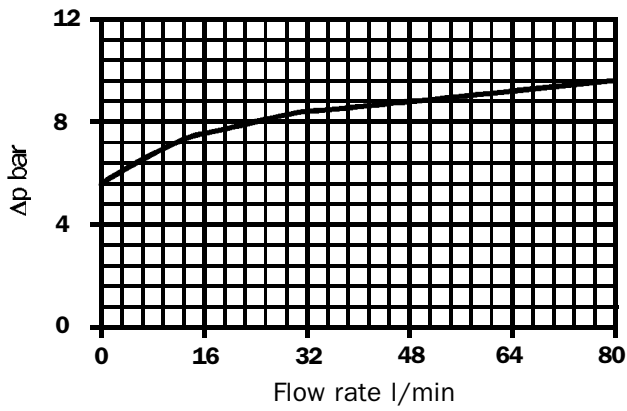
Filter Housing FHD 332



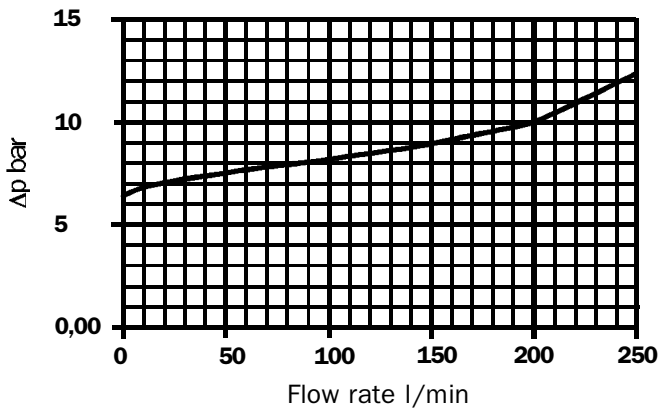
Valves

Bypass valve pressure drop

FHD 050



FHD 325 - 332



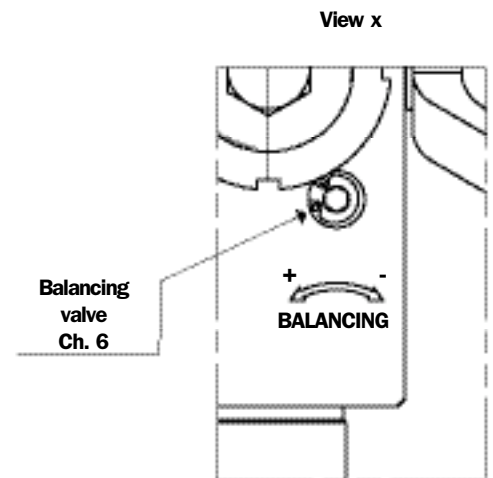
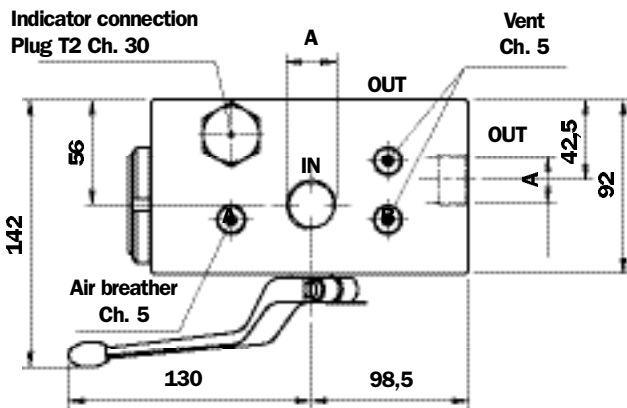
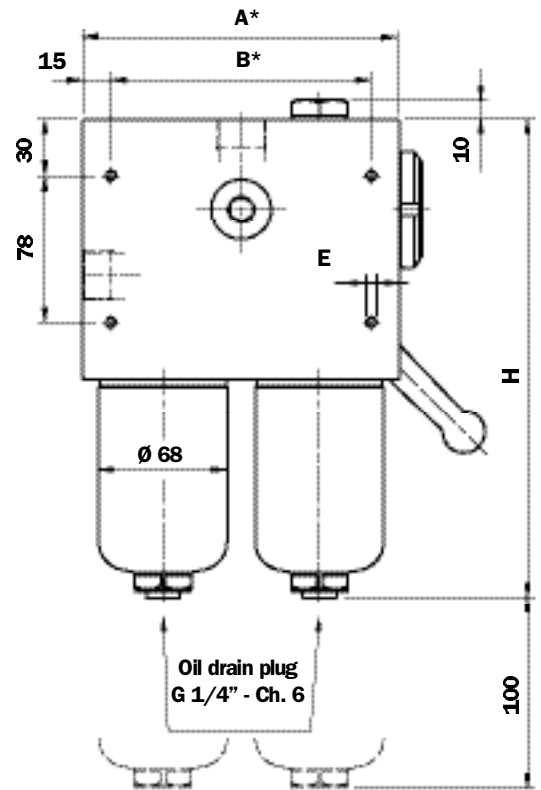
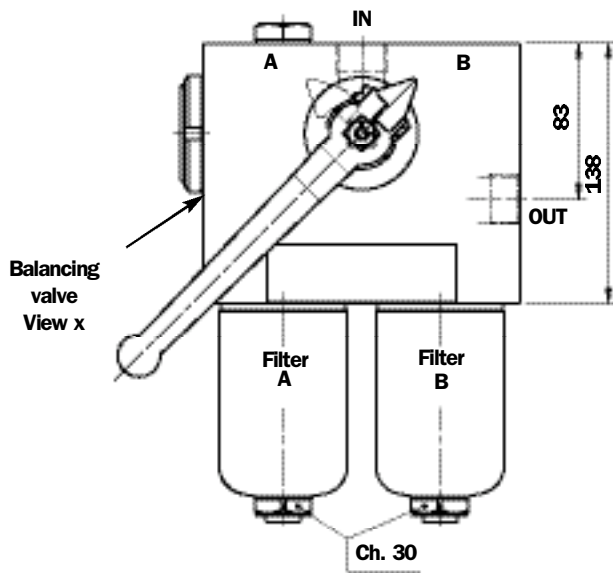
Recommended maximum flow rate

- Pressure drop of complete filter equal to Δp 2.5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0.86 kg/dm³.

Filter element type	020	050		325		332		Filter Length
	Flow rate l/min Series H	Flow rate l/min Series R	Flow rate l/min Series S	Flow rate l/min Series R	Flow rate l/min Series S	Flow rate l/min Series R	Flow rate l/min Series S	
A03	9							0
A06	10							
A10	14							
A16	15							
A25	17							
M25*	25							
A03	17	50	40	145	130			1
A06	20	59	48	150	135			
A10	28	68	60	195	175			
A16	30	70	60	208	180			
A25	33	76	67	220	212			
M25*	35	82	-	240	-			
A03		57	52	200	180	265	225	2
A06		60	55	208	190	275	245	
A10		70	58	225	215	315	290	
A16		75	72	235	218	320	295	
A25		80	78	245	230	330	315	
M25		86	-	245	-	340	-	
A03		64	60	220	205	295	268	3
A06		65	62	225	212	308	288	
A10		74	72	240	228	325	310	
A16		77	75	245	230	330	315	
A25		82	80	250	235	335	325	
M25		86	-	250	-	340	-	
A03		70	67			308	285	4
A06		72	70			315	295	
A10		78	76			330	315	
A16		79	77			335	315	
A25		82	82			340	305	
M25		86	-			345	-	
A03		77	73					5
A06		78	75					
A10		82	79					
A16		83	80					
A25		85	85					
M25		88	-					

* SERIES N

FHD 051

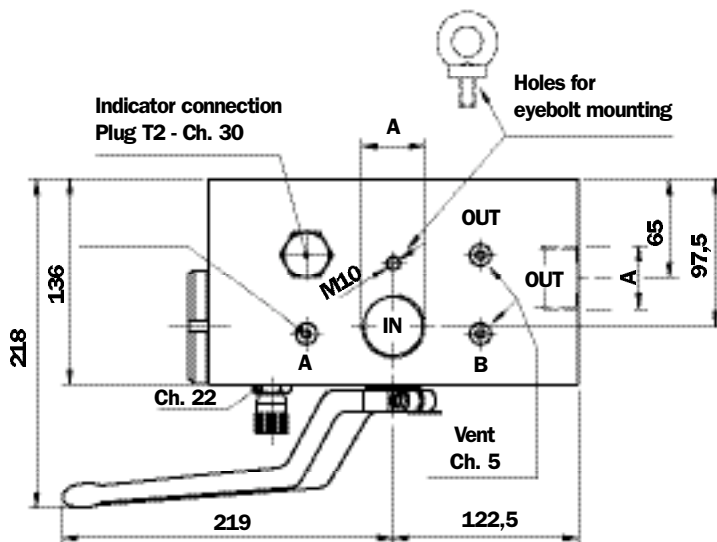
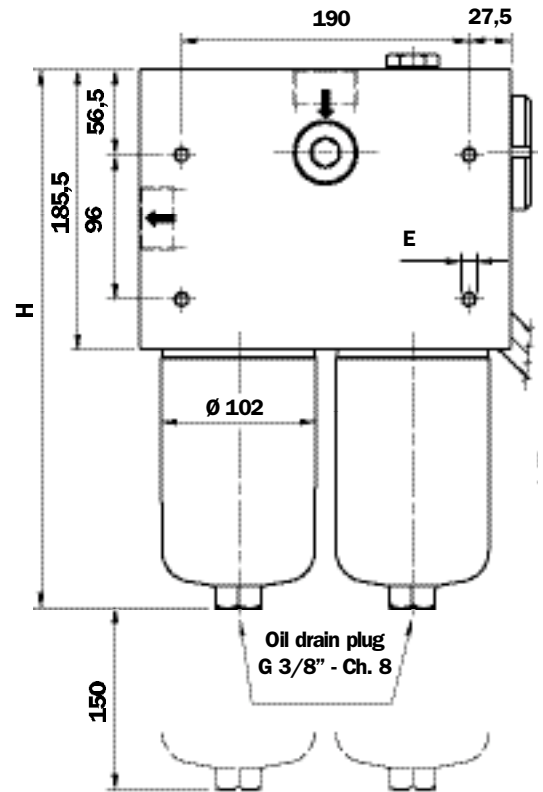
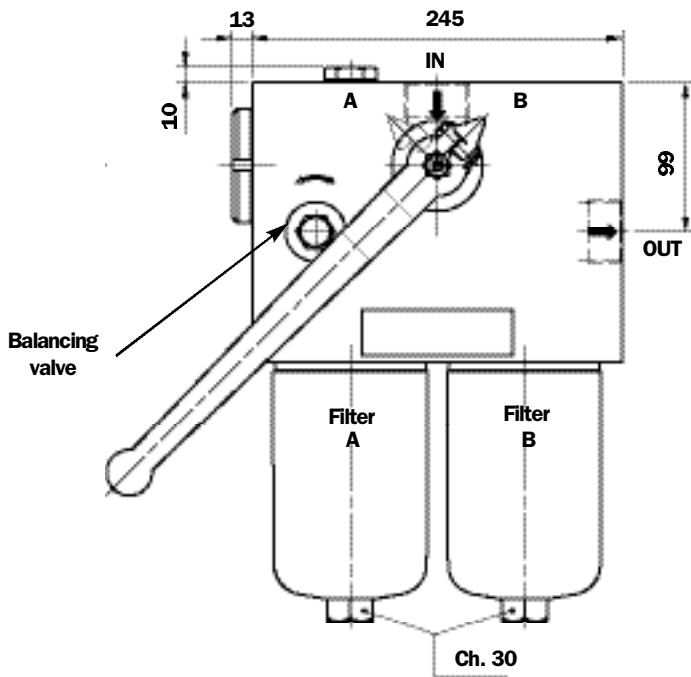


A Threaded Connections	E Depth 7 mm
G 1/2"	M6
G 3/4"	M6
1/2" NPT	1/4" UNC
3/4" NPT	1/4" UNC
SAE 8 (3/4"- 16 UNF)	1/4" UNC
SAE 12 (1 1/16"- 12 UN)	1/4" UNC

	A*	B*
With by-pass	182,5	152,5
Non by-pass	168	138

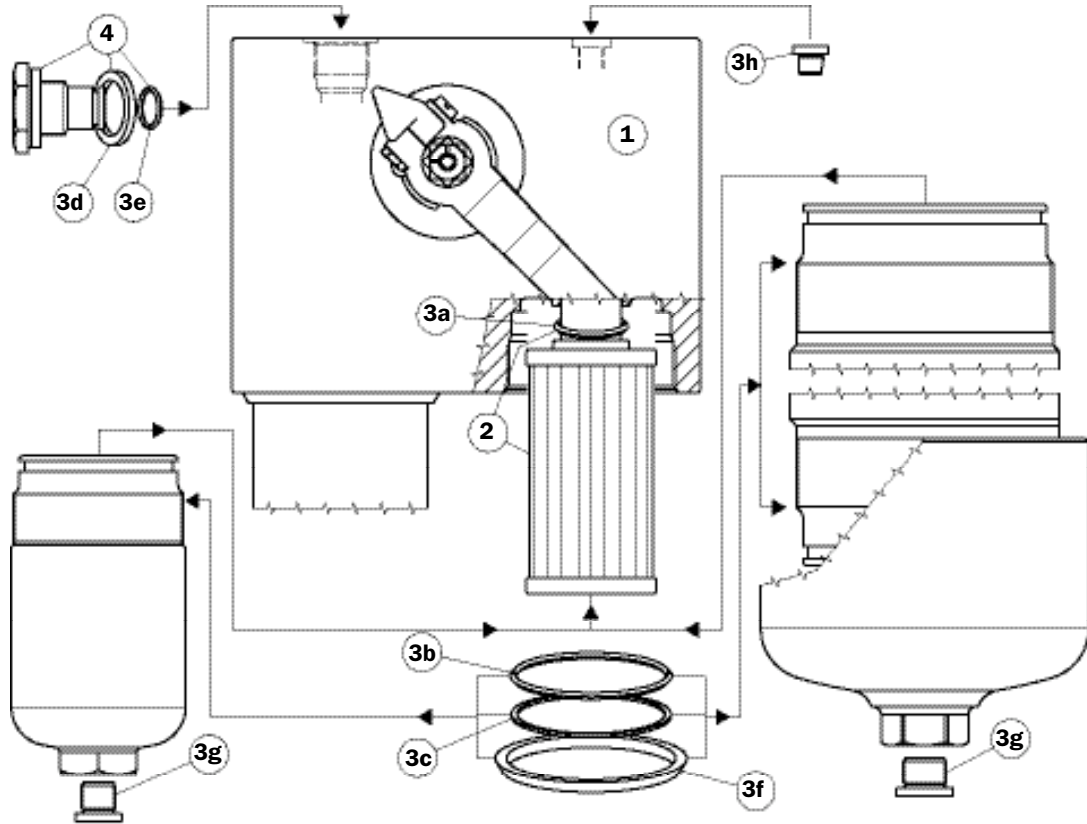
Filter Length	H mm
2	253
3	295
4	343
5	465

FHD 325



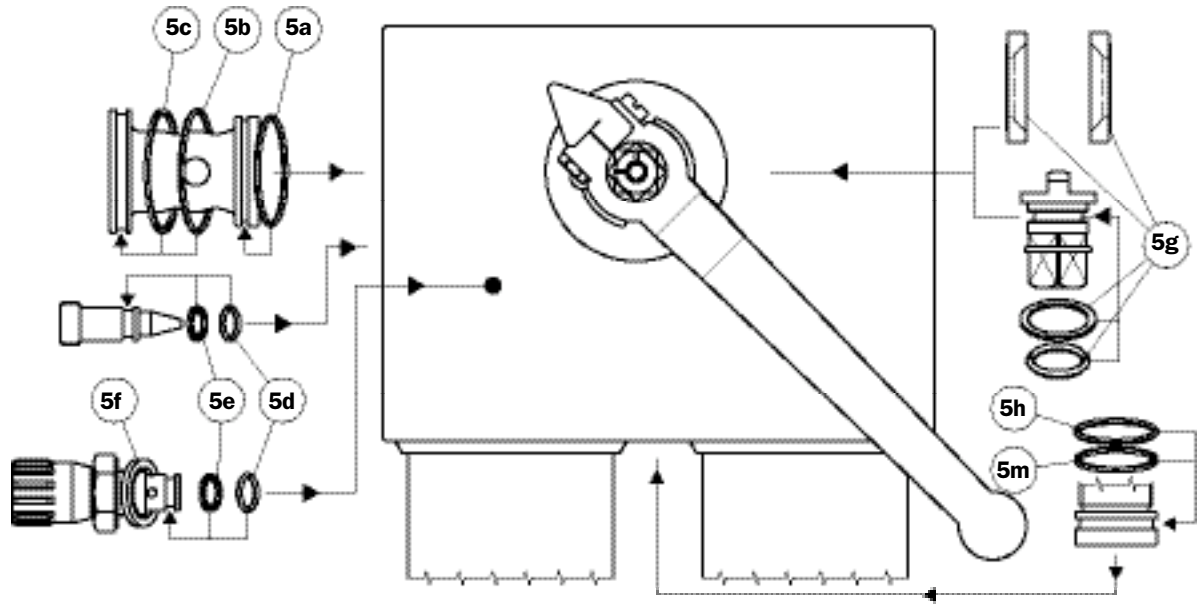
A	D	E	Filter Length	H
Threaded Connections		Depth 11 mm		mm
G 1 1/4"	M10	M10	1	308
1 1/4" NPT	3/8" UNC	3/8" UNC	2	431
SAE 20 (1 5/8" - 12 UN)	3/8" UNC	3/8" UNC	3	563

Spare parts FHD



Pos.	Description	Qty.	FHD Series FILTER							
			020 0 - 1		051 2 - 3 - 4 - 5		325 1 - 2 - 3		332 2 - 3 - 4	
1	Complete filter	1	See order table							
2	Filter element	1	See order table							
3	Seal kits	1	NBR 02050418	FPM 02050419	NBR 02050420	FPM 02050421	NBR 02050377	FPM 02050378	NBR 02050377	FPM 02050378
3a	Filter element O-Ring	2	OR 3062 Ø 15,56 x 2,62		OR 3093 Ø 23,47 x 2,62		OR 144 Ø 39,69 x 3,53			
3b	O-Ring for housing	2	OR 3162 Ø 40,95 x 2,62		OR 3225 Ø 56,82 x 2,62		4 pz.	OR 3350 Ø 88,57 x 2,62		
3c	Anti-extrusion ring	2	Parbak 130 Ø 41,73 x 2,18		Parbak 139 Ø 56,03 x 2,18		4 pz.	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	1	OR 2050 Ø 12,42 x 1,78							
3f	Protective seal	2	-		-		01026510			
3g	Oil drain plug	2	G 1/8" with bonded seal		G 1/4" with bonded seal		G 3/8" with bonded seal			
3h	Air vent	3	01029094							
-	Indicators	1	See order table							
4	Indicator plug	1	T2H				T2V			

Spare parts FHD



Pos.	Description	Qty.	FHD Series FILTER							
			020 0 - 1		051 2 - 3 - 4 - 5		325 1 - 2 - 3		332 2 - 3 - 4	
			NBR	FPM	NBR	FPM	NBR	FPM	NBR	FPM
5	Seal kits	1	02050422	02050423	02050424	02050425	02050426	02050427	02050428	02050429
5a	O-Ring for spacer	1	OR 2081 Ø 20,35 x 1,78		OR 2131 Ø 33,05 x 1,78		OR 2155 Ø 39,45 x 1,78		OR 2200 Ø 50,52 x 1,78	
5b	O-Ring for spacer	1	OR 2093 Ø 23,52 x 1,78		OR 2150 Ø 37,82 x 1,78		OR 3162 Ø 40,95 x 2,62		OR 3200 Ø 50,47 x 2,62	
5c	Anti-extrusion ring for spacer	1	Parbak 021 Ø 24,26 x 1,35		Parbak 029 Ø 38,56 x 1,35		Parbak 130 Ø 41,73 x 2,18		Parbak 136 Ø 51,26 x 2,18	
5d	O-Ring for balancing valve	1	-		OR 2031 Ø 7,65 x 1,78		OR 2037 Ø 9,25 x 1,78			
5e	Anti-extrusion ring balancing valve	1	-		01045083		01045090			
5f	Bonded seal for balancing valve	1	-		-		M15 - FPM			
5g	Seal kit for spacer	1	02050376 (DN10)		02050360 (DN20)		02050361 (DN25)		02050362 (DN32)	
5h	O-Ring Bp	1	-		OR 2093 Ø 23,52 x 1,78		-		-	
5m	Anti-extrusion ring Bp	1	-		Parbak 021 Ø 24,26 x 1,35		-		-	

Ordering information FHD

Filter assembly

FHD020/051

Example: FHD 051

Filter element

HP 050

Example: HP050

	1	2	3	4	5	6	7	8 a
FHD020/051	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FHD 051	051	4	S	A	G1	A10	S	P01
Filter element	1	2	6	4	7	8 b		
HP 050	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Example: HP050	050	4	A10	A	S	P01		

1 - Size

Filter	Filter element
<input type="checkbox"/> 020	<input type="checkbox"/> 020
<input type="checkbox"/> 051	<input type="checkbox"/> 050

2 - Filter length

	FHD 020	FHD 051
<input type="checkbox"/> 0	X	-
<input type="checkbox"/> 1	X	-
<input type="checkbox"/> 2	-	X
<input type="checkbox"/> 3	-	X
<input type="checkbox"/> 4	-	X
<input type="checkbox"/> 5	-	X

3 - Bypass valve

<input type="checkbox"/> S	Without bypass
<input type="checkbox"/> B	With bypass (only for FHD 051)

4 - Seals

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

8 - Options

a) Filter

<input type="checkbox"/> P01	MP Filtri standard
<input type="checkbox"/> P02	MP with replacement of the filter element from the cap (only for length 4)
<input type="checkbox"/> Pxx	Customer request

5 - Connections

	FHD 020	FHD 051
<input type="checkbox"/> G1	G 1/2"	G 3/4"
<input type="checkbox"/> G2	-	3/4" NPT
<input type="checkbox"/> G3	1/2" NPT	G 1/2"
<input type="checkbox"/> G4	SAE 8	1/2" NPT
<input type="checkbox"/> G5	-	SAE 8
<input type="checkbox"/> G6	-	SAE 12
<input type="checkbox"/> F1	-	-
<input type="checkbox"/> F2	-	-

6 - Filter element

<input type="checkbox"/> A03	Inorganic microfibre 3 µ	} βx (c) ≥ 1000 see page 10
<input type="checkbox"/> A06	Inorganic microfibre 6 µ	
<input type="checkbox"/> A10	Inorganic microfibre 10 µ	
<input type="checkbox"/> A16	Inorganic microfibre 16 µ	
<input type="checkbox"/> A25	Inorganic microfibre 25 µ	
<input type="checkbox"/> M25	Stainless steel mesh 25 µ (style N only)	

7 - Filter elements differential pressure

<input type="checkbox"/> R	20 bar only FHD 051	<input type="checkbox"/> N	20 bar (only for element M25)
<input type="checkbox"/> S	210 bar only FHD 051		
<input type="checkbox"/> H	210 bar only FHD 020		

b) Filter element

<input type="checkbox"/> P01	MP Filtri standard
<input type="checkbox"/> Pxx	Customer request

DIFFERENTIAL INDICATORS (see page 15)

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Ordering information FHD

Filter assembly

FHD 325/332

Example: FHD 332

Filter element

HP 320

Example: HP320

	1	2	3	4	5	6	7	8 a
FHD 325/332	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FHD 332	332	4	S	A	G1	A10	S	P01
Filter element								
HP 320	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Example: HP320	4	A10	A	S	P01			

1 - Size

325
332

2 - Filter length

	FHD 325	FHD 332
1	X	-
2	X	X
3	X	X
4	-	X

3 - Bypass valve

S	Without bypass
B	With bypass

4 - Seals

A	NBR
V	FPM

5 - Connections

	FHD 325	FHD 332
G1	G 1 1/4"	-
G2	-	-
G3	1 1/4" NPT	-
G4	SAE 20	-
G5	-	-
G6	-	-
F1	-	1 1/2" SAE 6000 PSI/M
F2	-	1 1/2" SAE 6000 PSI/UNC

6 - Filter element

A03	Inorganic microfibre 3 µ	} βx (c) ≥ 1000 see page 10
A06	Inorganic microfibre 6 µ	
A10	Inorganic microfibre 10 µ	
A16	Inorganic microfibre 16 µ	
A25	Inorganic microfibre 25 µ	
M25	Stainless steel mesh 25 µ (style N only)	

7 - Filter elements differential pressure

R	20 bar	N	20 bar (only for element M25)
S	210 bar		

8 - Options

a) Filter

P01	MP Filtri standard
P02	MP with replacement of the filter element from the cap (only for length 4)
Pxx	Customer request

b) Filter element

P01	MP Filtri standard
Pxx	Customer request

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